TRAFFIC ENGINEERING

OFFICIAL PUBLICATION OF THE INSTITUTE OF TRAFFIC ENGINEERS

COVER: The demand for parking is evidenced in this picture of Asbury Park, N. J. (Courtesy Public Roads Administration.)

May We Offer . . .

Day-to-Day Turnover	**V. H. Pelz**	**299**
Raleigh Improvements	**J. S. Burch**	**307**
Old Shopping Centers	**C. A. Capron**	**310**
Pavement Markings	**H. E. Neal**	**314**
Traffic Nightmare	**H. F. Hammond**	**321**
Parking Responsibility	**B. W. Marsh**	**329**
Reference Notes		**336**
ITE Activities		**338**
Personalities		**346**

Robert O. Swain, *Editor*

Le Verne Johnson, *Managing Editor*

Associate Editors: Fred W. Hurd, Herbert A. Keegan, James E. Reading, Charles LeCraw, J. A. Carrothers, Margaret Woolverton, Henry Barnes.

Associate Technical Editors: F. B. Crandall, H. M. LeRoy.

Business Staff:

Norman Damon, *Circulation Manager* -- Russell Harrison, *Advertising Manager*
Joseph Havenner, *West Coast Circulation Manager*

Entered as second class matter November 7, 1941, at the Post Office at Plainfield, New Jersey under Act of March 3, 1879.

TRAFFIC ENGINEERING is published monthly by the Institute of Traffic Engineers at 400 Watchung Avenue, Plainfield, New Jersey. Editorial Offices, 2312 North Vernon, Arlington, Virginia. Business Office, Strathcona Hall, New Haven 11, Connecticut. Permission to reprint contents with customary credit line is given unless otherwise stated.

Single copies 20c, subscription price $2.00 per year in the United States. Other publications of the Institute of Traffic Engineers include the Annual Proceedings, and Traffic Engineering Handbook.

VOLUME XVIII **APRIL, 1948** **NUMBER 7**

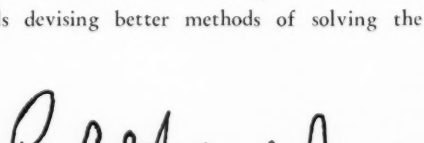
Frankly Speaking

THE hundreds of committees studying phases of the highway traffic problem for the INSTITUTE, and other national organizations, such as the National Safety Council, the American Association of State Highway Officials, the American Road Builders Association, the American Public Works Association and others, is a healthy sign. It indicates public officials and civic leaders realize that proper and efficient traffic control is vital to the welfare and advancement of our civilization.

There is, however, the danger of "too many cooks spoiling the broth." The multiple overlapping of committee activities not only in subjects but also in man power results in duplication of effort that is confusing to the public; wastes time, money and man power, particularly in research; and kills the initiative of many committee members because they are called upon to devote too much time to committee assignments.

The American Road Builders Association recently circulated its Board Members with a program designed to tighten-up on its committee activities. We in the INSTITUTE believe that steps should be taken to coordinate the traffic control and safety activities of all the interested national organizations. The Codification Committee, which I appointed in October, has submitted a report which was approved by the Board of Direction, that will gear the committee activities of the INSTITUTE so they can better cooperate and coordinate with committees from other organizations, in order to eliminate confusion and duplication.

We trust these other organizations will do the same and join with us in a joint and uniform effort towards devising better methods of solving the highway traffic problem.



President, ITE

Day-to-Day Turnover

by V. H. PELZ, *Managing Director*
Traffic Audit Bureau, Inc.

IN the Spring of 1946 the Traffic Audit Bureau, Inc. conducted an extensive survey in Ft. Wayne, Indiana, for the surpose of obtaining information bearing on many questions of interest to the companies who sell outdoor advertising and to the advertisers who buy it.

Fort Wayne was selected for the experimental study for three reasons:

1. It is representative of most American cities of its size with respect to its economic, industrial and social characteristics.
2. It is the center of a self-contained trading area.
3. It is a quite typical city with respect to traffic patterns and problems, and is free from topographical features that might cause abnormalities in traffic flow.

One of the questions on which data were desired was this: To what extent is a passenger car traffic stream at a given point made up of the *same cars* from day to day?

To those interested in outdoor advertising this is a rather important question. It has been widely assumed that car drivers are "creatures of habit", and tend to follow given routes —and pass given locations—day after day. This assumption received support from numerous traffic counts which showed a high degree of constancy in total traffic volume from day to day—at least on weekdays—at given locations.

To the traffic engineer the question may also have significance because of the part that origin and destination studies play in his work. If a high proportion of cars in a given traffic stream are the *same cars* from day to day, then destinations—and traffic volume—are more easily predictable. But if the destinations of given cars range widely over a market from day to day, then the problems of planning traffic routes are correspondingly complicated.

The assumption of "fixed" driving habits was too important to go unchallenged. Since no up-to-date data bearing on the question could be found, it was decided to include it as part of the Ft. Wayne study.

Ft. Wayne is located in Allen County. The city had a population, in 1940, of 118,410, the county had 155,084.

Procedure

To secure data, four widely separated counting stations were established at which a record was made for seven consecutive days (April 26-May 2, 1946) of every vehicle moving toward the poster panels at these locations. In the case of Indiana passenger cars, the full six-digit license number was recorded. The data cover one directional traffic only, not traffic in both directions. At three locations, the data cover the 18 hours from 6 A.M. to midnight; at one location they cover the 12 hours from 6 A.M. to 6 P.M.

The three 18-hour stations (Columbia Bridge, Van Buren Bridge, and Fairfield Avenue north of Taylor Street) were all on feeder routes into the central business district, and were located to the northeast, northwest and southwest, respectively, of the downtown area. The 12-hour station

(on Anthony Boulevard north of Creighton Street) is a major north-south artery about one mile and a half southeast of the center of the city. Traffic recorded on Van Buren Bridge and Anthony Boulevard was southbound; on Columbia Bridge, westbound; and on Fairfield, northbound.

Weather during the week was generally clear, with occasional rain.

Two man crews were used for the work. One observed and "called out" the license number, or type of vehicle; the other recorded the information. In the case of all Indiana passenger cars, except taxicabs, the full license number was recorded. All other vehicles (including taxicabs) were identified only as to type and state of registration. Trucks were classified according to the number of axles—two, three, and four or more.

From the original field data sheets, a card was punched for the entry for every vehicle. This card showed location and direction of traffic; day, date and weather conditions; type of vehicle; state of registration; for Indiana cars (except taxicabs) the full six-digit license number; and the five-minute time period in which the vehicle passed by.

A truck carrying only an Indiana license plate was, of course, credited to Indiana. Trucks carrying multiple license plates were recorded simply as out-of-state, without attempting to record which state plates were carried.

No attempt was made to record the license numbers on truck plates. A preliminary check indicated that so many truck plates were illegible—due to mud, and placement where they could not be read accurately, especially after dark—as to make it inadvisable to try to record them.

In recording passenger car license numbers, observers were instructed *never to guess* at a number, for *any* reason. In heavy traffic streams, cars would sometimes pass so close together as to make it difficult to *be sure* of the numbers on all cars. Sometimes, especially after dark, numbers were not legible. In any such case, the license number was omitted, though the fact was recorded that an Indiana passenger car (with license number missed) had passed.

Such "missed" license numbers amounted to only 3.54% of all passages by Indiana passenger cars. This percentage of "missed" numbers is much lower than was anticipated. Three factors were responsible for this: first, most of the observers were ex-servicemen with good vision; second, locations where records were made after dark all had supplementary lighting from street lamps, service stations or stores; third, observers were assured that the quality of their work would not be judged on "misses", no matter how many there were.

Crews were relieved for twenty to thirty minutes every two hours, and a supervisor spot checked the work at frequent and irregular intervals.

Total Vehicular Traffic, by Days

As shown in Table 1 the *total* number of vehicles of all types passing each of these four locations was remarkably constant on Monday, Tuesday, Wednesday and Thursday. On Friday and Saturday vehicular traffic was about 5% higher than on other weekdays; Sunday vehicular traffic at these locations was 30% below the four weekday average during the daytime and 22% below the four weekday average for the entire 18 hours.

Passenger Car Traffic Volume, By Days

The same pattern of stability in total volume from day to day—Monday through Thursday—was seen when passenger car traffic alone was broken down to show separately (a) the number of passages by Indiana

Table 1

Total Vehicular Traffic, All Types, One Direction, By Days

12 Hours

	Total 4 - 12 Hour Locations	Van Buren St. Bridge	Columbia St. Bridge	Fairfield n/o Taylor	Anthony n/o Creighton
Friday	16,343	4,634	3,838	5,217	2,654
Saturday	16,245	4,436	4,073	5,059	2,677
Sunday	10,907	3,184	2,531	3,321	1,871
Monday	15,668	4,375	3,659	5,119	2,515
Tuesday	15,276	4,248	3,529	5,032	2,467
Wednesday	15,389	4,275	3,506	5,149	2,459
Thursday	15,547	4,252	3,591	5,125	2,579

18 Hours

	Total 3 - 18 Hour Locations				
Friday	18,716	6,312	5,154	7,250	
Saturday	18,575	6,135	5,467	6,973	(Recorded
Sunday	13,967	5,188	3,836	4,943	
Monday	17,896	5,927	4,975	6,994	for 12
Tuesday	17,513	5,873	4,923	6,715	
Wednesday	17,841	5,952	4,925	6,964	hours only)
Thursday	17,894	5,939	4,962	6,993	

cars, (b) the number of passages by Allen County cars, and (c) the number of *separate* car licenses represented in the total passage by Allen County cars. These breakdowns are shown in Table 2.

The number of separate cars was determined by sorting punch cards by license number.

The Composition of Day-by-Day Passenger Car Traffic

The figures in Table 2 demonstrate that *total volume* of passenger car traffic at given locations was remarkably stable, especially on the four days Monday through Thursday.

But this very stability raises another question that is important, i.e., is the *composition* of the traffic stream the same from day to day? Is the stream made up of the *same* cars from day to day, or of *different* cars?

The extent to which the traffic stream at a given location from day to day—even though constant in total—was *not composed of the same cars* is clearly shown by the data in Table 3 for these four locations:

Only cars registered in Allen County are included in Table 3. If there is such a large amount of turnover in local cars from day to day, there is certain to be an even higher turnover in cars coming from other counties.

Clearly, then, car driving practices of Allen County car owners were *not* habitual or fixed, but fluid, since roughly 60% of all cars passed a given location *only one day out of seven.*

While these figures show that a considerable proportion of all Allen County cars passed each of these locations *some time during a week,* it

Table 2

Total Passages By Indiana and Allen County Cars, and Number of Separate Allen County Cars, By Days

	Total Passages By All Vehicles All States	Total Passages By Passenger Cars For Which License Numbers Were Recorded From Indiana	Total Passages By Passenger Cars For Which License Numbers Were Recorded From Allen County	Number of Separate Allen County Passenger Cars Passing Location
	Van Buren Bridge (18 Hours)			
Friday	6,312	4,383	3,317	2,730
Saturday	6,135	4,454	3,396	2,720
Sunday	5,188	4,074	3,102	2,639
Monday	5,927	4,180	3,165	2,537
Tuesday	5,873	4,193	3,237	2,575
Wednesday	5,952	4,252	3,217	2,587
Thursday	5,939	4,329	3,261	2,638
	Columbia St. Bridge (18 Hours)			
Friday	5,154	4,071	3,584	2,768
Saturday	5,467	4,318	3,800	2,937
Sunday	3,836	3,150	2,771	2,238
Monday	4,975	3,858	3,408	2,699
Tuesday	4,923	3,869	3,445	2,670
Wednesday	4,925	3,864	3,389	2,656
Thursday	4,962	3,899	3,412	2,669
	Fairfield N/O Taylor (18 Hours)			
Friday	7,250	5,413	4,519	3,673
Saturday	6,973	5,396	4,451	3,837
Sunday	4,943	4,019	3,430	2,962
Monday	6,994	5,452	4,647	3,904
Tuesday	6,715	5,216	4,451	3,735
Wednesday	6,964	5,431	4,610	3,866
Thursday	6,993	5,390	4,551	3,856
	Anthony N/O Creighton (12 Hours)			
Friday	2,654	2,051	1,757	1,574
Saturday	2,677	2,216	1,970	1,752
Sunday	1,871	1,638	1,427	1,298
Monday	2,515	1,929	1,660	1,508
Tuesday	2,467	1,889	1,643	1,462
Wednesday	2,459	1,870	1,616	1,467
Thursday	2,579	1,947	1,699	1,552

should also be noted that the *repetition rate per car per week is low*, ranging from 2.2 to 2.7 at the three 18-hour locations.

Another way of expressing the fluidity of automobile traffic in Ft. Wayne is shown in Table 4:

Wednesday was used for this analysis because it is neither the high nor low weekday. For every car passing on Wednesday, roughly three other cars passed the same location some other day during the week.

Still another way, as shown in Table 5, of indicating the changing or fluid composition of these traffic streams is

to see how many cars passed for the first time (during the week) on successive days. Friday was the first day on which the data were recorded.

The rate at which each of these four locations "builds up" to the total number of cars that pass during a week is approximately the same for all four.

The data in Table 5 are based on the week as a whole. What about the make up of *each day's* traffic stream?

Here again, analysis indicates the changing make up day by day of the cars in the traffic stream, as shown in Table 6.

On each day at each location there was a group of cars passing *only* that day, and *not* again during the week. At Columbia Bridge, for example, 816 cars passed on Saturday only, representing 27.8% of all separate cars passing that day. But 914 of the cars that passed on Saturday, or 31.1%, passed *for the first time* on Saturday and also passed some later day in the week. Finally there were 1,207 cars that passed on Saturday which had also passed on Friday, and these made up 41.1% of the total number of cars that passed on Saturday.

"Regular" and "Roving" Cars

The facts presented as to the day by day composition of traffic streams make it clear that a given traffic stream is not composed entirely of the *same* cars from day to day. But it is nonetheless logical to believe that *some* cars will pass a given location regularly, and others will not. So there is still need to know what proportion of cars pass regularly.

Such an analysis was, therefore, made of the cars that passed Columbia Bridge during the week. The results—

Table 3

Number and Percentage of Allen County Passenger Cars Passing Each of Four Locations One or More Days During a Week

	Van Buren Bridge (18 Hours)		Columbia St. Bridge (18 Hours)		Fairfield n/o Taylor (18 Hours)		Anthony n/o Creighton (12 Hours)	
Cars Passing	No.	%	No.	%	No.	%	No.	%
Any one day	5,611	59.4	4,967	56.5	7,825	57.2	4,288	67.2
Any two days	1,637	17.3	1,455	16.6	2,730	20.0	1,029	16.1
Any three days	798	8.4	702	8.0	1,283	9.4	421	6.6
Any four days	509	5.4	537	6.1	827	6.0	304	4.8
Any five days	437	4.6	471	5.4	567	4.1	235	3.7
Any six days	295	3.1	420	4.8	346	2.5	89	1.4
All seven days	164	1.7	233	2.7	100	.7	11	.2
Total separate cars passing any time during week	9,451	100.0	8,785	100.0	13,678	100.0	6,377	100.0
Total passages during week	22,695		23,809		30,659		11,772	
Average passages per car during week		2.4		2.7		2.2		1.8
Per cent of 36,720 Allen County passenger cars passing during week		25.7%		23.9%		37.2%		17.4%

Table 4

Number and Per Cent of Separate Cars Passing Four Seven Day Locations on Wednesday, and on Other Days During the Week

	Total Passing During Week		Passing on Wednesday		Passing on Other Days	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Van Buren	9,451	100.0	2,587	27.4	6,864	72.6
Anthony	6,377	100.0	1,467	23.0	4,910	77.0
Columbia	8,785	100.0	2,656	30.2	6,129	69.8
Fairfield	13,678	100.0	3,886	28.4	9,792	71.6

Table 5

Number and Per Cent of Cars Passing For First Time Each Day During a Week

Cars Passing For For First Time on:	Columbia St. Bridge		Van Buren Bridge		Fairfield Avenue		Anthony Blvd.	
	Number	Per Cent	Number	Per Cent	Number	Per Cent	Number	Per Cent
	(18 Hours)		(18 Hours)		(18 Hours)		(12 Hours)	
Friday	2,768	31.5	2,730	28.9	3,873	28.3	1,574	24.7
Saturday	1,788	20.4	1,831	19.4	2,799	20.4	1,329	20.8
Sunday	1,159	13.2	1,646	17.4	1,726	12.6	1,038	16.3
Monday	954	10.9	912	9.6	1,749	12.8	665	10.4
Tuesday	794	9.0	898	9.5	1,301	9.5	619	9.7
Wednesday	661	7.5	793	8.4	1,174	8.6	573	9.0
Thursday	661	7.5	641	6.8	1,056	7.8	579	9.1
Total Separate cars passing during week	8,785	100.0	9,451	100.0	13,678	100.0	6,377	100.0

which are presented in Table 7—show that these cars fell into two groups. One group consisted of cars whose owners live in the immediate vicinity of the location; these cars passed the location frequently. The other group consisted of cars whose owners live in other parts of the city or county and who, therefore, had occasion to pass less frequently. These two groups might be called "regular" and "roving" drivers (or cars).

Columbia Bridge is a natural gateway for traffic headed southwest toward the central business district, the direction of traffic flow covered by the car license data. There are two other bridges across the St. Mary's River, and two across St. Joe River, but none of the four lead directly into the central business district.

State registration lists revealed the number and per cent of all cars registered in Allen County owned by people living in this northeast section bounded by the two rivers. The car license data were then analyzed to find out the number and percentage of cars in the northeast area that passed over the bridge and how often, in comparison with cars domiciled outside the northeast area.

The key facts from this analysis (see Table 7) show that—

The northeast area had only 14.8% of all cars registered in the county.

These cars were responsible for 37.2% of separate cars and 57.1%

Table 6

Analysis of Separate Cars Passing Each Location Each Day

Day	Separate Cars Passing: Total Number	Total Per Cent	Only on Day Specified Number	Only on Day Specified Per Cent	For First Time on Day Specified and also on Some Later Day Number	For First Time on Day Specified and also on Some Later Day Per Cent	On Day Specified and also on Some Previous Day Number	On Day Specified and also on Some Previous Day Per Cent
				Columbia St. Bridge				
Friday	2,768	100.0	709	25.6	2,059	74.4	--	—
Saturday	2,937	100.0	816	27.8	914	31.1	1,207	41.1
Sunday	2,238	100.0	768	34.3	313	14.0	1,157	51.7
Monday	2,699	100.0	602	22.3	297	11.0	1,800	66.7
Tuesday	2,670	100.0	638	23.9	139	5.2	1,893	70.9
Wednesday	2,656	100.0	582	21.9	61	2.3	2,013	75.8
Thursday	2,669	100.0	635	23.8	--	—	2,034	76.2
				Van Buren St. Bridge				
Friday	2,730	100.0	844	30.9	1,886	69.1	—	—
Saturday	2,720	100.0	946	34.8	887	32.6	887	32.6
Sunday	2,639	100.0	628	23.8	472	17.9	1,539	58.3
Monday	2,537	100.0	619	24.4	335	13.2	1,583	62.4
Tuesday	2,575	100.0	726	28.2	162	6.3	1,687	65.5
Wednesday	2,587	100.0	691	26.7	98	3.8	1,798	69.5
Thursday	2,638	100.0	641	24.3	--	--	1,997	75.7
				Fairfield Ave.				
Friday	3,873	100.0	1,232	31.8	2,641	68.2	--	—
Saturday	3,837	100.0	1,312	34.2	1,404	36.6	1,121	29.2
Sunday	2,962	100.0	1,043	35.2	616	20.8	1,303	44.0
Monday	3,904	100.0	1,023	26.2	687	17.6	2,194	56.2
Tuesday	3,735	100.0	930	24.9	355	9.5	2,450	65.6
Wednesday	3,886	100.0	1,053	27.1	144	3.7	2,689	69.2
Thursday	3,856	100.0	1,030	26.7	--	--	2,826	73.3
				Anthony Blvd.				
Friday	1,574	100.0	545	34.6	1,029	65.4	—	—
Saturday	1,752	100.0	976	55.7	427	24.4	349	19.9
Sunday	1,298	100.0	814	62.7	187	14.4	297	22.9
Monday	1,508	100.0	471	31.2	232	15.4	805	53.4
Tuesday	1,462	100.0	468	32.0	132	9.0	862	59.0
Wednesday	1,467	100.0	464	31.6	67	4.6	936	63.8
Thursday	1,552	100.0	571	36.8	--	—	981	63.2

of passages over the bridge.

The "regular" cars—domiciled in the area—on the average passed over the bridge 4.16 times per week in one direction, while the "roving" cars —coming from outside the area— passed over the bridge on the average only 1.85 times per week.

37.9% of all cars from the area passed on four or more days during the week, while only 8.2% of cars from outside the area did so.

Summary

Total volume of automotive traffic at four locations was remarkably constant on Monday, Tuesday, Wednesday and Thursday.

While total volume of passenger car traffic was relatively stable on Monday through Thursday, there was considerable turnover from day to day in the cars composing the traffic stream at these four locations:

A. Of all the separate cars that passed a given location during a week, roughly 60% passed only on *one* day of the seven.

B. For every car that passed on one weekday, three others passed some other day during a week.

C. Of all the cars passing one location during a week, 37.2% of them accounted for 57.1% of all passages. These "regular" cars passed an average of 4.16 times per car per week (moving in one direction) while the 85.2% of "roving" cars passed only 1.85 times per car per week.

(Table 7 appears on page 306)

Table 7

Analysis of Allen County Cars Passing Columbia Bridge During One Week
(Based on Sample of 31.3% of all Cars Registered)

	All Allen County Cars		Cars Whose Owners Live In			
			In N. E. Area		Outside N. E. Area	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Cars registered	36,720	100.0	5,427	14.78	31,293	85.22
Separate cars passing during week. . .	8,785	100.0	3,270	37.22	5,515	62.73
Total passages during week	23,809	100.0	13,593	57.09	10,216	42.91
Passages per car per week	2.71		4.16		1.85	
		* * *				
Separate cars passing during week. . .	8,785	100.0	3,270	100.0	5,515	100.0
Cars passing only one day	4,967	56.5	905	27.7	3,955	71.7
Cars passing two days	1,455	16.6	703	21.5	811	14.7
Cars passing three days	702	8.0	422	12.9	297	5.4
Cars passing four days	537	6.1	346	10.6	138	2.5
Cars passing five days	471	5.4	343	10.5	138	2.5
Cars passing six days	420	4.8	349	10.7	99	1.8
Cars passing seven days	233	2.7	202	6.2	77	1.4
Cars passing 4 - 7 days	1,661	19.2	1,240	37.9	452	8.2

RAILROAD-INTERSECTION SIGNAL SYSTEM

"Courtesy Dallas Times Herald"

Pictured above is the intersection of Oak Lawn Avenue and U. S. 77, Dallas, which was described in Bill Brandes' article in February TRAFFIC ENGINEERING on **Railxing Treatment.**

Raleigh Improvements

by JAMES S. BURCH, *Member ITE*

BEFORE and after speed drift checks show 32% increase in the average progress of vehicles over the downtown street system which was recently changed to one-way operation, with rotary movement around the Capitol square.

Raleigh, the Capitol City, with about 60,000 population, had not before used the one-way principle.

Further improvements will follow planned re-design of the signal timing system.

Text

On January 1, 1948, the City of Raleigh took its most progressive step in improving downtown traffic movement, with the inauguration of one-way traffic movement on two major streets, and one-way rotary movement around the State Capitol square, as noted in the attached diagram. Attendant changes involved revised street bus routes and stops, increasing radii on inside curbs at the Capitol square, elimination of some parking, revision of some angle parking to parallel parking, and additional turn restrictions, etc. The major objective, of course, was to improve the efficiency of traffic movement in terms of speed, removing conflicting movements and eliminating congestion.

In order to appraise the effect of these improvements, we have made "before and after" speed drift checks, and herewith present the data.

Before

The original speed drift data were obtained on December 30, after the Christmas rush, after all business and offices had reopened, on a Tuesday, under normal weather conditions, with no special events. Traffic volumes were moderate.

The morning check involved eleven repeated circuits of the proposed one-way street system, Salisbury, Cabarrus, Wilmington, and Edenton Streets, a distance of 1.15 miles. The survey car travelled with traffic, and the observer took stop watch readings at every intersection. The run was from 8:15 to 9:45 A.M.—the normal morning peak period. The average time for the circuit was 7.87 minutes, with a high of 9.00, and a low of 6.83 minutes.

The afternoon check was similarly made with five repeated circuits from 4:45 to 5:45, the afternoon peak hour. The results were—average 9.87 minutes, high 12.42 minutes, and low 8.75 minutes.

After

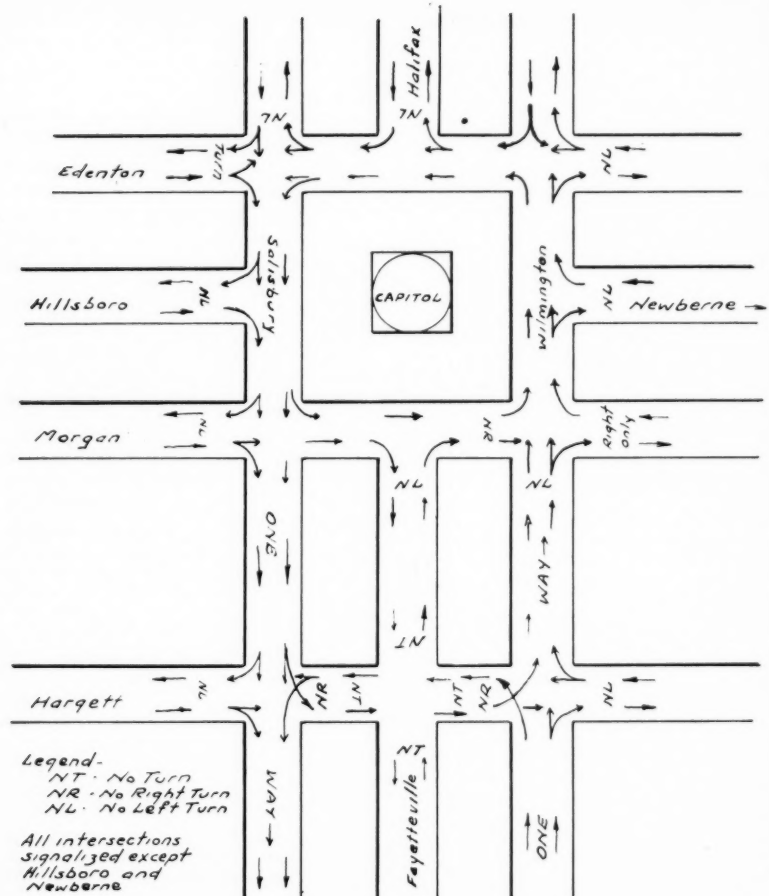
The changeover to the one-way and rotary system was made early on the morning of January 1, following many days of pre-change publicity and preparation.

The "after" check was not made until two weeks later, in order that the public could have sufficient time to become familiar with the changes, and adapt their driving habits to fit them.

The "after" check was made on January 14, a normal Wednesday, with normal weather, moderate traffic volume, and no special events. The same observer followed the same route and procedure as in the "before" check, starting at the same times.

The morning check involved 7 repeated circuits, 8:15 to 9:15. The results were—average 6.05, high 7.32 and low 5.77 minutes.

The afternoon check involved 5 repeated circuits, 4:45 to 5:40. The



ONE-WAY AND ROTARY PLAN
DOWNTOWN RALEIGH N.C.

DIV. S.P. NCSHPWC.
1-1-48

results were—average 7.36, high 8.53 and low 6.33 minutes.

Comparison

The morning circuit showed a time reduction of from 7.87 to 6.05 minutes for the average circuit. This means that it formerly required 30% more time to traverse the circuit than after the improvement. Where the net progress before was 8.8 miles per hour, it became 11.4 miles per hour after the change, representing a 30% increase.

Furthermore, the slowest circuit after the improvement took about the same time as the fastest circuit before the improvement.

The average afternoon circuit showed a time reduction from 9.87 to 7.36 minutes. Thus, it formerly took 34% more time for a circuit than after the improvement. The average progress for a circuit increased from 7.0 to 9.4 miles per hour, an improvement of 34%.

Combining morning with afternoon, the improvement can be rated at 32%.

Further Work

Maximum efficiency cannot be obtained until additional equipment can be installed to synchronize the signal system, now on alternate block timing and set for the previous slow progress. The signals now retard traffic flow, and plans are underway to revise their operation.

The improvement already made is especially significant in view of the very low cost; involving only signs and public understanding and cooperation. The results are apparent to all observers, and all local comments are favorable.

INTERNATIONAL SIGN SYSTEM
REPRINTS AT TWENTY CENTS PER COPY
INSTITUTE OF TRAFFIC ENGINEERS
Strathcona Hall, New Haven 11, Connecticut

REORGANIZATION FOR TRAFFIC PROBLEMS PROPOSED FOR NEW YORK CITY

During the past few months the press has reported the activities of the Traffic Action Committee of New York City. This group, composed of a number of prominent citizens, and with Walter D. Binger as Chairman, has recently urged the passage of two bills by the New York State Legislalature.

One of these bills would authorize the establishment of a Board of Traffic Control for New York City, the Board to consist of an experienced traffic engineer as chairman, the Police Commissioner, Chairman of the City Planning Commission, Commissioner of Public Works and a Borough President. The purpose of the Traffic Control Board would be to take over and to consolidate the traffic functions that are now split among a number of city bodies. The Board would also assume some of the non-police functions of the Police Department, the agency that now has direct responsibility for traffic administration in the city.

The second bill would establish a Parking Authority to provide and to operate garages, parking lots and parking meters on a self-sustaining basis. The initial program proposed for this Authority would involve capital expenditures in excess of $50 million.

Harold M. Lewis, City Planner of New York, is consultant to the Traffic Action Committee with respect to the Traffic Control Board. Mr. Lewis and Guy Kelcey, of Edwards and Kelcey, are collaborating as consultants to the Committee with respect to the economic aspects and other requirements of the proposed Parking Authority.

Old Shopping Centers

by C. Alexander Capron

Editor's Note: The following discussion of steps taken by the City of Montclair, New Jersey in its agressive attack on the town parking problem was outlined in a talk by Mr. Capron, Chairman of the Montclair Town Planning Board at the Regional Plan Conference of the New Jersey-New York-Conecticut Metropolitan Region.

It is assumed that the shopping centers, which have been described as "old", are those which were established before the full effect of the automobile on the problem of merchandising had become apparent. Any shopping center, whether established last year or over one hundred years ago, is old if the streets within it are not sufficient to provide for the free flow of automobile traffic or if adequate parking space is not provided for the cars of present and prospective patrons. In most old shopping centers as the use of automobiles increased and there was a similar increase in the demand for parking space, the available curb parking space has decreased due to the necessity of prohibiting parking to enable traffic to move through congested streets.

Some parking space has been provided by private capital in establishing lots where cars may be parked for a fee. However, the space so provided is only a small fraction of that required and the fees charged have not been such as to attract those who wish to stop only for a short time.

Two trends have developed. First, the blighting of residential areas around the shopping centers due to the continuous parking of cars in front of the residences. Second, decentralization—the establishment of shops in outlying districts where land is available and a merchant may provide at his own expense at least part of the parking space required by his customers.

Property Value

Both of these trends tend to depress the value of property in the old shopping centers. As the surrounding residential areas decrease in attractiveness, the character of the residents change and buying power decreases. The effect of drawing patrons away from old centers to new shopping areas where cars may be parked without inconvenience or loss of time is obvious.

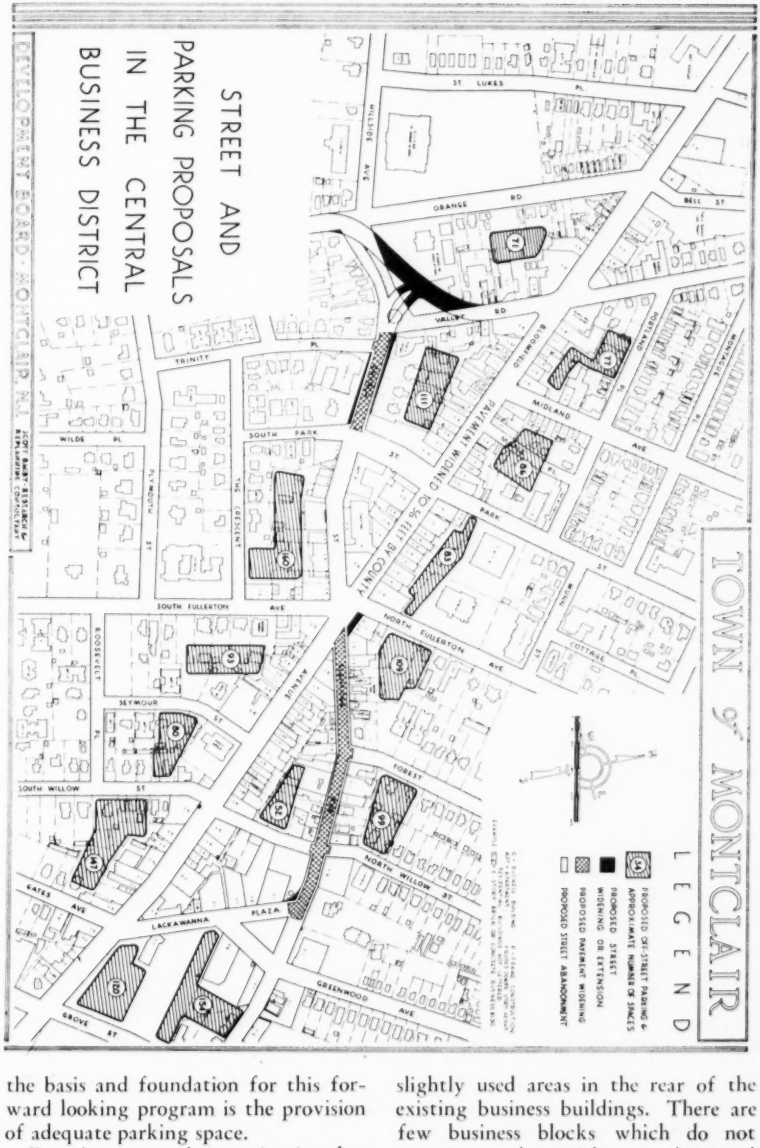
Two courses are open to the municipalities in which such old shopping centers are found. Such centers may be abandoned to wither and die for lack of adequate nourishment, or adequate parking space must be provided to serve such centers. It seems obvious that there is only one reasonable course for any forward looking community to follow.

There are doubtless various ways in which this problem may be dealt with. I shall, however, confine myself to a consideration of the steps which have been and are being taken by Montclair, New Jersey.

America's "Athens"

Although Montclair has been named by some as the Athens of America so far as education, culture and desirable residences are concerned, a substantial part of its main shopping area does not qualify for a place in such a town, but would be more truly representative of the typical "Main Street" of most American communities. The town fathers and many of the merchants are looking and moving forward to an improved shopping center which will not only add dignity to the town, but will bring financial rewards to the merchants and to the town as a whole.

While other steps are being taken,



the basis and foundation for this forward looking program is the provision of adequate parking space.

Examination and investigation has persuaded Montclair that much of the needed space may be found in the slightly used areas in the rear of the existing business buildings. There are few business blocks which do not contain a substantial area of unused space in the center of the block which may be made available for parking.

The Town Planner, Mr. Scott Bagby, has prepared a map showing the areas where parking areas have been established and are in the process of establishment or designated in Montclair's plan for future acquisition. You will observe how uniformly the pattern repeats itself of finding unused space in the rear of business buildings which may be utilized for this purpose. I believe that this is typical of most American cities.

Montclair has found that it is not sufficient to spot such possible locations and call attention to the desirability of converting them into parking areas—that there are numerous questions which must be dealt with to accomplish the desired purpose. Let me list a few of these.

1. The attitude of local merchants. Quite generally they are in favor of parking areas near their shops, but looking forward to the increased business as a result of the establishment of such areas, they become conscious of the value to them of the space in the rear of their buildings which has lain idle for years and which they think they should be permitted to retain to provide for expansion. It takes time to persuade some of them that there is no reasonable alternative but to use at least part of their idle property for such purpose. In general, it seems that complete acquiescence from all may not be secured and it is necessary to resort to condemnation with respect to a few recalcitrants in order to go forward with such a program.

2. How can such a program be financed? Under the laws of New Jersey the cost of providing such parking areas may not be assessed as local benefits. That may be a method which is available to municipalities in other states, but I am not convinced that the limitations found in the New Jersey statutes have proved unfortunate for Montclair. If the costs had been assessed locally either in whole or in part, I believe that the Town Commission would have found much greater resistance on the part of local merchants to pressing forward with the program, notwithstanding that the furnishing of such parking space will be of greater benefit to the merchants than anyone else in town. In my opinion, it is of importance to the town as a whole that the shopping center should prosper and should be improved.

   Not finding it possible to assess the costs against the properties benefited, the town found it necessary to look for other means of defraying such costs. It found this in parking meter revenue. The town first decided that it would install parking meters on the main business streets in the chief shopping center and that the revenue derived from such meters should be devoted to the acquisition of land and the improvement thereof as parking plazas.

   The first idea was that the parking areas should be developed on a pay-as-you-go basis, but it has now been determined that the need of providing such space is so pressing as not to make it prudent to spread the program over the period of time which would be necessary if such method of financing were adhered to. The present policy of the town is to press forward vigorously with the acquisition and improvement of these parking plazas and to borrow such funds as may be necessary to defray the cost. It is estimated that the parking meter revenue will be adequate to pay for all service charges required to retire such bonds.

3. It is not sufficient merely to establish parking areas. It is necessary to regulate their use so that those which are designed as parking spaces for shoppers will be kept available for that purpose. After the first parking area was established by the town in its main shopping center, it was found that it afforded little opportunity for shoppers to park. It was almost completely filled with cars shortly after 9:00 A.M. and it was found that a large proportion of the cars so parked were left in the parking area all day. Some of these all-day parkers were commuters who utilized this space because of the difficulty of finding any space near the railroad station, but many of the cars were those of merchants and business people and their employees, who drove to the business center either from parts of Montclair or surrounding communities. It has, therefore, been concluded that in order to insure that the parking areas most convenient for shoppers should be reserved for that purpose, parking meters should be installed in these parking plazas.

   The use of parking meters, therefore, serves two purposes. They will supply the revenue needed to retire the bonds issued to provide for the cost of these parking areas, and they will provide a means of regulating their use. Experience would indicate that both of these purposes are of the utmost importance in the practical working out of a program to provide parking space for shoppers.

   To relieve the residential streets from the burden of undue parking of automobiles, it has been recognized that it is necessary to provide some locations where all-day parking will be permitted. It is proposed that for such all-day parking lots license plate tags should be sold —$10 a year for Montclair residents, businessmen or their employees, and $20 a year for out-of-town commuters who wish to drive to the Montclair railroad station and leave their cars. These all-day parking areas would also be installed with 10c meters for the occasional all-day parker. In areas best located for shoppers, it is proposed to charge 5c for an hour's parking and 10c for three hours' parking. Some of the present curb parking will be restricted to one-half hour parking at a charge of 5c. The charges which I have mentioned have merely been proposed as amounts sufficient to produce the required revenue. I understand that these matters

WASHINGTON TESTS NEW SIGNAL HEAD

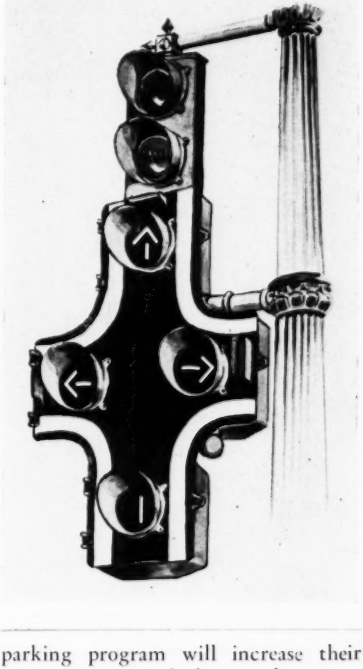
The District of Columbia has authorized a demonstration of one "Aroway" traffic signal on the southwest corner of 14th and F Streets N.W., so that it may be observed by District officials and those members of the Committee on Uniform Traffic Control Devices who are located in or near Washington, D. C.

The essential feature of the "Aroway" signal is the depicting of the intersection being controlled, and the indication on this picture of the permitted and prohibitive movements.

Standard ITE green arrow lenses are used in the appropriate sections of the "roadway" to indicate the movements which are allowed, and red "bars" are placed across those segments which traffic may not enter. If a movement is permitted during a part of a day or a part of the cycle and not at other times, the arrow is illuminated during the time when that movement is allowed, and the red bar is illuminated during the times when it is not allowed. If all traffic is stopped the standard red lens at the top of the signal is illuminated.

The signal face may be made up for any shape intersection, such as a "T", "Y", "X" or other special condition.

JOHN MITTON



have not been finally acted upon by the Town Commisison.

An estimate of the amount of parking space which should be provided was based upon careful surveys both as to the number of cars parked and the duration of such parking. It is hoped to provide stalls for all-day parking to accommodate 150 per cent of the present all-day demands. For shoppers, it is hoped to make provision for double the present number of shoppers' cars parked in the central shopping district. These estimates are based upon the belief that as soon as parking space is provided, the demand for such space will rapidly increase. If the number of shoppers who visit Montclair as a result of these efforts to provide for their accommodation increases to a point where there is a still greater demand for parking space, it is hoped that those then in authority will see the wisdom of again expanding the program for parking areas so as to keep pace with the demand.

Based upon the belief that this parking program will increase their business, many of the merchants are planning improvements to their stores, particularly to their outward appearances. Another program is now being developed by the town to encourage such improvements, but that is another story which does not relate to parking.

It looks as if Montclair is well on the road toward meeting this problem and that it may look forward to greater prosperity on the part of its merchants, a shopping district which will be greatly improved in appearance and more in keeping with the character of the rest of Montclair, increased ratables in the business district and, therefore, more tax revenue to relieve the burden now being carried by the owners of residences.

Pavement Markings

by HARRY E. NEAL, *Member ITE*

THE markings covered in the new Manual of Uniform Traffic Control Devices are classified into four major subdivisions, viz.: 1, Pavement markings, such as center lines, lane lines, no-passing zone markings, clearance lines, approachs to obstructions, stop lines, crosswalk lines, etc.; 2, Curb markings to indicate parking restrictions; 3, Object markings for objects within or close to the roadway; and 4, Reflector markers to delineate the roadway or to mark hazards within the roadway. This discussion, however, is limited to pavement markings.

The most common and the most important use made of pavement markings for the purpose of traffic control is the marking of center lines, lane lines, no-passing zone markings, stop lines, crosswalk lines, directional markings, etc., on pavements.

Prefer Markings

Pavement markings are preferable to roadside signs for certain conditions where it is important that warning or other information be conveyed to the driver without diverting his attention from the road. Center lines, lane lines, and no-passing lines are valuable aids to driving and are of particular value at night, in fog, or other low visibility conditions.

Practically all state highway departments now use some type of such markings on rural state highways. Although generally considered to be one of the most valuable aids to safe driving, there is however a wide variation in the type of marking used in different sections of the country, particularly in the method used to mark zones where overtaking and passing is unsafe because of limited sight distance.

Not only does the type of marking vary widely but several states use, or did until recently, two different systems on their state highways, and one state had three different methods depending probably on the whim of the particular district engineer.

Use Color

Several states use a two color system of designating no-passing zones. In most of these states, the center line is white and a parallel yellow line in the driver's lane adjacent to the center line, indicates that it is unsafe to pass a vehicle ahead. In other states, the center line is yellow and a white line in the driver's lane prohibits passing. In one state until recently at least, a yellow line alongside the center line in the lane opposite the driver's lane indicated that it was not safe to pass.

In some states, the center line is dashed and a parallel solid line of the same color in the driver's lane indicates no-passing. In at least one state, the center line is a solid line of bituminous material with white stone chips and a no-passing zone is indicated by a dashed white line parallel with the center line.

The result of all this is, of course, confusion. It creates an intolerable situation which should not be permitted to exist any longer.

"State Rights"

These differences in types are, no doubt, expressions of individualism and represent a type of provincialism or isolationism. They probably came about originally because one state in a representative section of the country would take the lead and would adopt a certain system of marking and the neighboring states in that geographical area, taking the line of least resistance woud follow suit. Once having

adopted a particular system of marking, these states through a conviction that their system was satisfactory, mixed perhaps with a certain amount of inertia, have been reluctant to change to any other system not of their own devising.

This is not to say that none of these various systems serve the purpose for which they are intended, at least so far as drivers who are familiar with them are concerned. As a matter of fact, no doubt most, if not all of them, are effective when their meaning is once understood. However, a stranger is confused by a system with which he is unfamiliar. This results in uncertainty on the part of the driver and is very likely to contribute to accidents because of the possibility of a driver misinterpreting the meaning of a type of marking with which he is not familiar.

Safety Factor

Because of their great contribution to the safety and mental ease of driving when their meaning is clear, and because of the potential hazard of confusing marking, it is important that pavement markings be uniform throughout the country so that they will in effect constitute a universal language conveying the same meaning to every driver everywhere.

An attempt at developing a uniform system of marking and signing for no-passing zones was made in 1940 by the American Association of State Highway Officials when it adopted standards for marking and signing such zones. These standards were prepared by a Joint Committee composed of members from the Committee on Maintenance and the Committee on Traffic Control and Safety, under the Chairmanship of Mr. E. W. James of the Public Roads Administration. This system was approved by the American Association of State Highway Officials in 1940 and is set forth in "A Policy on Criteria for Marking and Signing No-Passing Zones on Two

and Three Lane Roads" published by the Association.

Width Described

The principal feature of this system of marking no-passing zones is the use of a solid yellow auxiliary, or barrier stripe to the right of the normal center line, i. e., in the lane of traffic it is to govern and separated from the center line by a distance equal to one-half the width of the center line. In this system, it is provided that the normal center line shall be either white or black and either solid or broken. It is provided that the barrier line shall not be less than the width of the center line, nor in any case less than 4 inches wide, and preferably 6 inches in width.

Twenty or twenty-one states adopted this system in 1940 and 1941, just before the entry of the United States in World War II. Some of these states use a dashed center line and some a solid center line. Most of them use a white center line except on concrete where a black line is generally used.

This system would undoubtedly have been adopted by more states if it had not been for the entry of the United States into World War II. The use of this system, or any other system, using parallel lines, for practical application requires equipment that can apply the parallel lines simultaneously. Some states were able to acquire such equipment in the year before the war. However, after the outbreak of the war it became impossible to obtain the equipment and this, plus the critical shortage of paint, particularly ye'low, made it practically an impossibility for other states to adopt the two-color system.

Availability Was Factor

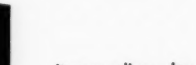
In the meantime, several Eastern states, following the lead of one or two other states in that section, adopted a one-color system in which

the center line is a dashed white line and a no-passing zone is indicated by a solid white line parallel with the center line. Because of the critical shortage of yellow paint, the War Emergency Edition of the Manual on Uniform Traffic Control Devices permitted the use of all-white no-passing markings, explaining, however, that "the only factor necessitating a change in standards during the war emergency is that certain paints, particularly yellow, contain materials that are or may become critical."

Considered by Committee

A request that the one-color system for marking no-passing zones be approved as an alternate standard was brought up before the Joint Committee on Uniform Traffic Control Devices at its meeting in December 1945, at which time a majority of the Committee voted to accept this system as an alternate to the AASHO two-color standard. The Committee expressed "preference" for a white center line and for a barrier line of contrasting color, i. e., yellow, if with a white center line, and vice versa, but left it optional whether one or two colors were used, and which color was used for either or for both lines.

A LONGER LIFE-TIME... with the PRISMO LIFE-LINE



Enlarged side view of embedded **PRISMO SPHERES**

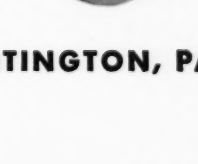
. . . it saves lives day and night for the longest number of years.

WHEN YOU LOOK AT A HIGHWAY CENTER LINE . . .

- If it's the brightest—it's Prismo
- If it has reflected with the *most* brilliance for the longest time—it's Prismo
- If the cost has been the least—it's Prismo

PRISMO HAS NO EQUAL. The Prismo Life-Line is the most brilliantly reflective marking material that a highway can have. It's optical-clear tiny glass spheres—imbedded in the safety lines of the road—reflect life saving light at the widest angle of sight.

WRITE FOR THE REASONS that prove the scientific superiority of the Prismo process—the pioneer process that has been *tested by time*. Find out why Prismo is standard in many cities, counties and states for all danger points including no passing zones, fog lining and municipal marking.



PRISMO SAFETY CORPORATION, HUNTINGTON, PA.

The one-color system, however, requires that the distinction between center line and barrier line be made by type of line rather than by color. Hence, the Committee made a broken line mandatory for the center line, with a solid line mandatory for the barrier line.

This action, although acceptable to those States that desired the one-color system, immediately was criticized on the following grounds:

(1) It was definitely a movement away from a uniform standard in that it permitted either yellow or white or any combination thereof for the required striping.

(2) It is stipulated that the center line should be dashed in all cases. This was protested by many who contended either that (a) the broken line is difficult to repaint accurately, or that (b) a solid line is more effective as a traffic control device. One state had changed from a dashed center line to a solid line reporting that it had done so because of the difficulty of exactly retracing the old dashes and there were complaints from many drivers that a dashed line produced a flickering effect which was not only annoying but also resulted in fatigue caused by eye strain. Some drivers also claimed that it had a soporific effect on them.

As a result of this criticism, the question was reopened at the July 1946 meeting of the Joint Committee, and the Joint Committee reversed its former action by reaffirming the existing AASHO standard, with, however, an expressed "preference" for the broken center line.

This action in turn was protested by the "one-color" states, including two states that had adopted the one-color system on the basis of the Committee's earlier recommendation.

The principal arguments advanced by the advocates of the one-color system were:

(1) A broken line with 15 foot dashes and 25 foot gaps saves 60 per cent or more in paint.

(2) A broken line is as effective as a solid line for center lines and lane lines.

(3) Under not infrequent conditions of weather and light, a yellow line cannot be distinguished from a white line.

(4) Equipment has been developed to lay down or repaint dashed lines accurately and neatly.

(5 A broken line should be used, in any case, for the normal center line where passing is permitted, reserving the solid line for lines that are not to be crossed.

(6) The use of the dashed-solid line, one-color system permits the use of only two lines, one solid and one dashed, through no-passing zones instead of the three lines (center line and barrier lines on each side) required with the present A.A.S.H.O. system.

The proponents of the two-color A.A.S.H.O. system contended that:

(1) The use of a yellow barrier line makes no-passing zones conspicuous and distinctive by day and night.

(2) The significance of a solid line as a line that cannot be crossed cannot be maintained because where a black center line is used on a center joint of a concrete pavement, it is practically necessary to make it a solid line. Therefore, the use of the solid line should be optional.

(3) There is no need for a special type of center line or lane line to show where passing is permitted if no-passing lines are marked with a special double line to show where passing is not permitted.

(4) The cost of applying two lines of different colors is no greater than the cost of applying two lines of the same color because in each case both lines are applied simultaneously.

(5) There is no evidence that a broken line is as effective as a solid line in dividing opposing lanes of traffic, and it is difficult to retrace previously painted dashes exactly; therefore, broken lines tend to become ragged and unsightly.

(6) The saving in paint when a dashed line is used is conceded. However, economy should not necessarily be the governing factor in the use of traffic control devices designed for the safety of traffic.

(7) Any revision of the existing standards should be based on a factual study of the various types, and not on opinion influenced by consideration of cost rather than by consideration of effectiveness.

Attention was called to the study of various types of marking no-passing zones, including the one-color and two-color systems in controversy, which was made by the Ohio Department of Highways in 1939 for the Project Committee on Markings for No-Passing Zones of the Highway Research Board. It was pointed out that in this study it was found that a yellow barrier line along a white center line, either dashed or solid, was more effective in obtaining driver observance than a white barrier line along a dashed white center line. It was found in this study that 50 per cent fewer drivers disregarded the yellow barrier line than disregarded the white barrier line and 50 per cent more drivers expressed a preference for the yellow barrier line.

The difference of opinion which has arisen over the pavement marking standards revolves primarily about the method of marking no-passing zones. If a yellow auxiliary line is used with a white center line, the center line

Split Second LEGIBILITY

Seconds count when life hangs on the knowledge that danger lurks ahead!

Prevent street and highway tragedies with the sign that's easily seen, easily read. That's Miro-Flex, America's finest complete sign line . . . signs that warn quickly. Galvanized on bonderized steel. Plain embossed or reflectorized, with glass or lucite buttons. Write for catalog today.

4-48

MANUFACTURED BY

MIRO-FLEX CO., INC.

1824 EAST SECOND STREET · WICHITA, KANSAS

can, of course be either solid or dashed. However, if the one-color system is used, the distinction between the barrier line and the center line must be by a difference in form, which means that the center line *must* be a dashed line.

As a result of the controversy over the type of center line and barrier line which should be adopted as standard, the Joint Committee on Uniform Traffic Control Devices circularized the Chief Highway Engineer or Chief Executive of all State Highway Departments asking them to record their preferences for the various standards proposed for the marking of no-passing zones. According to the report on the results of this ballot, there was a wide variation in the views expressed but there was preference indicated for the broken center line, i. e., a design of marking in which the distinction between center line and barrier line is made by form, whether or not it is also emphasized by color contrast. Therefore, the Joint Committee on Uniform Traffic Control Devices again asked each State Highway Department Chief Executive to indicate his preference between a white barrier line and a yellow barrier line, the center line to be a broken or dashed line in each case. The result of this ballot indicated such a division of opinion as to the one-color and the two-color schemes that it could not be interpreted as a determination of the question.

The problem was discussed in a panel meeting at the American Association of State Highway Officials Annual Meeting at Los Angeles in December 1946 and following this a meeting of the Editing Committee of the Joint Committee on Uniform Traffic Control Devices was held at which it was decided to submit the following definite recommendation to the States for ballot:

"The center line on a two-lane road shall be a *white, broken* line.

"The barrier line used to mark no-passing zones shall be a *solid* line, for which *yellow is recommended*, with white as a possible alternative."

The recommendation was approved by the majority of the states by a vote of Yes—34, No—16, Not Voting—2, and is incorporated in the new Manual on Uniform Traffic Control Devices as the standard system. Thus the significance of yellow as a warning color is recognized, and the solid line is reserved for use as the barrier line only.

This appears to settle the question as to the method for marking center lines, lane lines, and no-passing lines preferred by the majority. While the result is based on opinion rather than on factual investigation, the approved method will no doubt be acceptable until further study can be made. The important thing is to eliminate the confusion which exists at the present time as the result of the wide variations used throughout the country.

It is expected that the principal difficulty that will be experienced with the dashed line is in retracing old lines when repainting. If the old dashes are not retraced exactly the new dashes will run over into the gaps and successive repaintings without accurate registration will result in lines that are ragged and very unsightly.

With motorized striping equipment it will be necessary to utilize an automatic device to apply the intermittent line. In the initial painting the application of a neat and clean cut dashed line with such a device should not be difficult. However, unless the dashing device is capable of accurate and instantaneous adjustment while in operation, the retracing operation will result in very unsightly lines.

Traffic Nightmare

by HAROLD F. HAMMOND, *Member, ITE**

TRUCK operators are in the position today of being praised for the job they do and damned for the traffic congestion they create. Most people are willing to recognize that trucks are extremely important to community welfare but mounting traffic congestion is rapidly subtracting from this importance. What about the future?

Congestion Outlook

The congestion outlook, with its resultant traffic nightmares, is not good. Today, auto registrations are up 3½ per cent, truck registrations are up 33 per cent and nationwide vehicle travel is up 11 per cent over the prewar peak of 1941 and still climbing. More importantly, traffic movement in many cities is already up 50 per cent over the prewar peak and still mounting. There is little wonder then that everyone is feeling the pinch of traffic congestion and demanding that something be done about it.

To make matters worse this is a pinch that has a double barrel effect on commercial vehicle operators—first, as a pinch resulting from the restrictions placed on truck operations and second, as a pinch from the greater truck operating costs involved. Your Executive Secretary, Mr. F. H. Floyd, pointed out in a recent magazine article that today the cost of operating a truck ranges from 5c to 20c per minute. At these rates, unproductive man hours and truck hours spent in traffic tangles and waiting for access to loading points become very costly.

With the future of local truck operations hinging so much on traffic conditions let us check the trend of city thinking and action toward finding and applying solutions to truck traffic problems.

Trend of Thinking

What some communities think about the truck traffic problem can be illustrated by the recommendations of the New York World-Telegram in its recent traffic survey, the fifth since 1936. It reported that:

> Regulations establishing maximum truck lengths that will insure easy movement through congested areas and clearly defined prohibitions against abuse of street and sidewalk privileges must be written into the city's administrative code immediately. Lack of such restrictions is contributing greatly to the traffic tangles that are costing business $1 million a day and the city hundreds of thousands in broken curbs and sidewalks. Under present regulations trucks are permitted to back across sidewalks to load and unload. In the process they disrupt traffic seriously. One such truck, extending out into the street, can block off from one lane to half the street and make a traffic barrier that is felt for one to three blocks, depending on the congestion of the area. These trucks also increase pedestrian hazards and further disrupt traffic by forcing passers-by into the street.

So much for the World-Telegram comments.

It is quite evident that communities will find it necessary to place greater restrictions on truck deliveries in business districts. For example, one large New England city will put into effect on February 1, an ordinance prohibiting trailer trucks in the central business district from 8:00 A.M. to 6:15 P.M. and prohibiting all pick-ups and deliveries by any kind of trucks from 4:30 to 6:15 P.M. With an increase in such restrictions as congestion mounts, it is important to see that the truck ordinances are based upon well rounded studies and not guess work. It has been observed that commercial vehicle traffic problems are generally not yet receiving the

*Paper presented at the Annual Meeting of the Local Cartage National Conference at New Orleans, Louisiana, January 19, 1948.

constructive and careful attention from many communities that the problems deserve.

Too often communities have taken steps to relegate the truck to back streets with the hope that its elimination will rectify a bad traffic condition. Others have failed to provide adequate curb-loading zones for commercial vehicles which generally ends up with much double parking and more traffic congestion. Often municipal traffic surveys ignore or skip over the truck needs thereby ruling out well-planned and engineered solutions to many traffic problems involving trucks.

Lack Understanding

These unfavorable conditions are seldom due to a reluctance of municipal officials to cooperate with truck operators. More often they are due to a lack of proper understanding and a full appreciation of the trucking problems only because the traffic education of officials has been along other lines. Only last week I received a letter which read, "we have done less to solve this phase (truck loading) of our parking and truck problem than any other phase."

Fortunately, the conditions just presented are not universal nor static. There are favorable signs developing here and there. Public officials in some cities are beginning to show more willingness to consult with truck operators to find solutions to traffic problems involving trucks. Also, traffic engineers are now attempting to measure more accurately truck loading needs at the curb and are also sponsoring greater use of off-street loading facilities.

Let's explore more fully what the cities, with or without the assistance of commercial vehicle operators, are doing to meet some of the truck movement and loading problems.

One Sided Parking

To discourage all-day parking and to permit adequate truck loading space, an increasing number of cities now prohibit parking on one side of a street in the morning, and the opposite side in the afternoon. A fewer but increasing number prohibit curb parking entirely in the business district during business hours.

The more aggressive cities are establishing a larger number of well marked and strictly enforced curb loading zones of sufficient length to permit easy truck ingress and egress. Portable and mobile raised loading platforms are also being used to permit trucks to load at shipping platforms more nearly parallel to curb than has been the practice in the past.

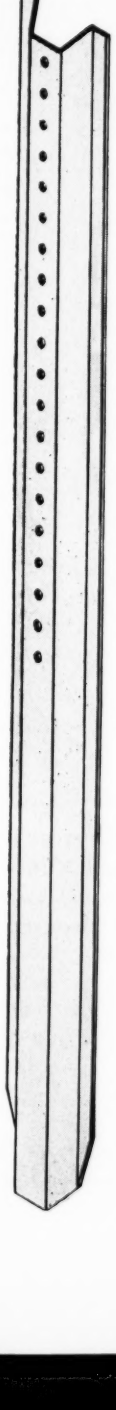
To date, some 70 cities have adopted zoning ordinances requiring new business structures to provide adequate off-street truck loading facilities. Types of new structures required to furnish off-street loading facilities in the 70 cities are given in the table at the bottom of this page.

No city, however, has made the zoning ordinance retroactive so as to apply to existing structures, unless major alterations are undertaken.

Special Committees

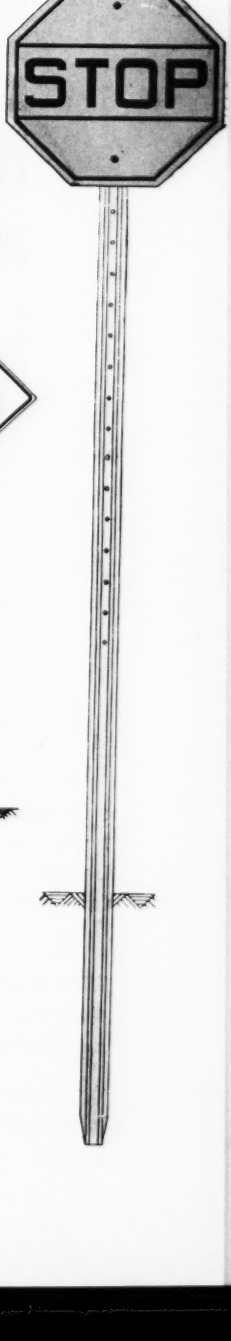
Probably the most encouraging community development has been the formation of special joint committees to work with city officials toward acceptable solutions of local traffic problems. Some of these have been suggested by city officials and some by the trucking industry.

Retail Stores	in	30	per	cent	of	the	cities
Hotels	in	20	"	"	"	"	"
Office Buildings	in	24	"	"	"	"	"
Wholesale Houses and Industrial Buildings	in	28	"	"	"	"	"



available

Almost Everything You Need



Highway Sign Posts
Route Marker Posts
Delineator Posts
Snow Fence Posts

ALSO

All types of Steel Highway Traffic Signs, Route Markers, and Street Name Plates, Reflectorized or Non-Reflectorized

Write for Catalog and Prices

THE HUNT COMPANY

Established 1920

3700 W. McNichols Rd.
Detroit 21, Mich.

In April Showers . . . or Any Weather

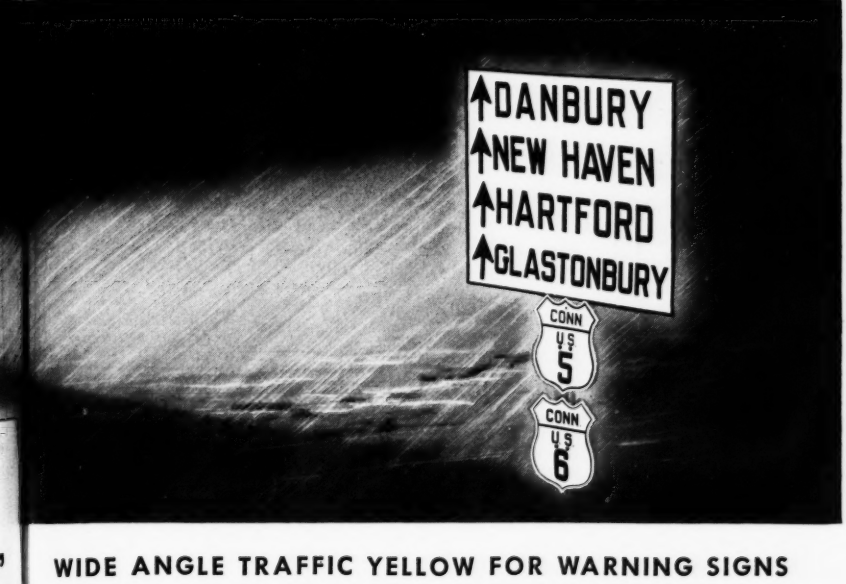
WIDE ANGLE TRAFFIC WHITE "SCOTCHLITE"

Shines With Extra Brilliance

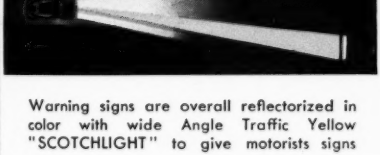
In fair weather or foul, your highway signs have new sparkling whiteness, new all-angle effectiveness with Wide Angle Traffic White "SCOTCHLITE." Information signs, guide signs of all kinds flash their message with new legibility; increased angle of reflection. Motorists spot 'em sooner; read 'em faster; see 'em longer.

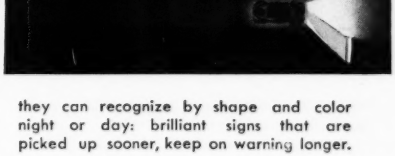
Now, with Wide Angle Traffic White "SCOTCHLITE" for guide signs and Wide Angle Traffic Yellow "SCOTCHLITE" for warning signs you have a team that gives *all* your highway signs the extra brilliance, extra effectiveness called for by modern highways, modern speeds.

For complete information on new Wide Angle Traffic White or Yellow "SCOTCHLITE," drop us a line and we'll be glad to send you all the details. Address Dept. TE 448.



WIDE ANGLE TRAFFIC YELLOW FOR WARNING SIGNS





Warning signs are overall reflectorized in color with wide Angle Traffic Yellow "SCOTCHLIGHT" to give motorists signs they can recognize by shape and color night or day: brilliant signs that are picked up sooner, keep on warning longer.

SCOTCHLITE

REG. U.S. PAT. OFF.

REFLECTIVE SHEETING

ANOTHER 3M COMPANY PRODUCT

Made in U.S.A. by **MINNESOTA MINING & MFG. CO.** St. Paul 6, Minn.

One such committee, composed of shippers and motor carrier operators, was recently established in a southern city and police officials have agreed to submit to this 10-man committee all problems concerning loading and unloading of shipments by motor truck.

Another such committee, functioning in a western city, was able to hold up passage of a restrictive ordinance which would have forbidden the use of important downtown streets to trucks. Through an agreement with the city officials certain trucking operations were re-arranged to avoid the congested area. A 30-day trial period proved the voluntary plan was successful and the restrictive ordinance was not needed.

Another such committee, composed of truck operators and union leaders, was recently formed in New York City. This committee has held several meetings within the past month to discuss ways and means of relieving traffic congestion in Manhattan, particularly in the garment section.

Cartage Groups Suggestions

Though a few committees are being formed along the lines just described, local truck interests generally have not been active in traffic matters. My work in past years with dozens of local traffic organizations has revealed a lack of organized and active traffic interest by local trucking groups. Certainly, one of the best ways to assure sound and reasonable solutions to those traffic problems involving commercial vehicles is for commercial vehicle operators to become active and to participate in local traffic and safety committees and when conditions warrant to form special committees as just described.

Of the many constructive traffic measures that local truck groups can promote, the following are considered important:

1. Encourage local officials to give more consideration to truck problems when making local parking and traffic surveys.
2. Encourage the development of off-street parking facilities for passenger cars, as well as the development of off-street loading facilities, so that the curb parking of passenger cars can be further restricted without complaints from motorists.
3. Encourage architects and engineers to design adequate off-street loading facilities in new commercial and industrial structures.
4. Encourage the use of one-way streets in business districts. One-way streets often handle 50 per cent more traffic per rush hour than two-way streets.
5. Urge the designation of specially marked routes for through truck movements.
6. Aid in the establishment of depots outside of congested areas where over-the-road truck loads can be transferred to smaller trucks. A good example of this is a trucking terminal just outside Boston having an island platform that will accommodate 21 road trailers and 18 pick-up and delivery trucks at one time.

U. S. Chamber Is Interested

For some time the U. S. Chamber has advocated measures to help alleviate traffic congestion and to aid commercial vehicles. Recently, it issued a large illustrated booklet entitled "Making Better Use of Today's Streets". We have been highly gratified by the assistance that this booklet has given local groups in solving traffic problems.

During the past year the Chamber has attempted to emphasize the traffic problems confronting truckers. First, through an excellent talk on the subject at its Annual Meeting by Mr. John Lawrence, Managing Director, American Trucking Associations, Inc., and second, through the participation of Mr. D. L. Sutherland, President, Middle Atlantic Transportation Co., Inc., New Britain, Connecticut, in the two-day Businessmen's National Conference on Urban Problems.

More recently, the Chamber in attempting to further intensify its interest in local traffic problems, created an Urban Transportation Committee which is devoting special attention to truck loading movement problems and has been obtaining first hand information on these problems through the cooperation of hundreds of local chambers of commerce. One of your members, Mr. George C. Harris, of Birmingham, is a member of this special committee.

Truck traffic remedial measures now being studied by this committee, which are an amplification of the present National Chamber policies, include the following:

1. Parking regulations should recognize that practically every building, including residences, requires frequent or occasional service by truck, and should make such service feasible.
2. Insofar as commercial buildings cannot provide off-street loading facilities adequate for their maximum needs, specific commercial loading and unloading zones

ARE YOU PLANNING AHEAD?

Many state, highway and county engineers are not only "planning ahead" for the construction of new highways and streets, but have already, through the aid of Streeter-Amet Traficounters, made extensive surveys . . . and are ready to put into operation a complete construction program, as soon as facilities and materials are available.

The Traficounter is a precision instrument . . . twice as fast as any other vehicle counter. Easy to install . . economical to operate . . . at work 24 hours a day, rain or shine. It gives facts that are indispensable to the traffic engineers who do the planning. Write for Bulletin on Streeter-Amet Traficounters.

STREETER - AMET COMPANY
1726 Belle Plaine Avenue Chicago 13, Illinois

should be provided at the curb from which all parking of cars is excluded during reasonable pick-up and delivery hours, and such exclusion should be rigidly enforced.

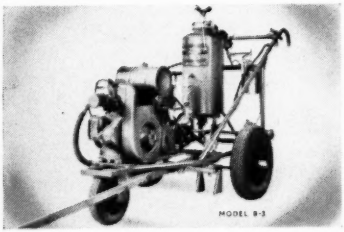
3. Trucks that load or unload parallel to the curb in congested business districts should be encouraged to load or unload during non-rush traffic periods, and trucks that load or unload at an angle to the curb and occupy more street space than the curb lane should be encouraged to load or unload before and after business hours only.
4. Where the volume of commercial vehicle loading and unloading justifies, off-street facilities therefor should be required for new buildings. This requirement should apply to existing commercial buildings where economically feasible.
5. Joint loading and unloading facilities should be established or other arrangements should be required between the tenants and landlord in the multiple-story industrial buildings whose individual tenants are not equipped with street-level facilities for handling truck shipments so that truck shipments will be received or delivered promptly without undue truck waiting time.
6. Joint trucking terminals and joint arrangements for consolidating less than truck load deliveries should be established to reduce wastage in truck pick-up and delivery service of small shipments and to reduce street traffic congestion resulting from excessive truck traffic.
7. Shippers, carriers, labor and other interested groups should collectively work with the municipal officials and recognized traffic organizations to develop measures that will relieve traffic congestion without disrupting flow of motor freight.

In closing, let me repeat that local traffic conditions are fast reaching a point where it will be physically impossible for all vehicles wishing to enter the business district to do so. Hence, it is essential that you help awaken and keep awake the public and city officials to the fact that distribution of commerce in the community is a tremendously important subject that must be helped—not restricted. It is also essential that you assist the officials and business groups in applying proven traffic congestion remedial measures.

SEX CRIME STIRS CITY

CLEVELAND, OHIO—Climaxing an unprecedented wave of street attacks and purse snatchings, the fiendish murder of 8-year-old Sheila Ann Tuley on New Year's night aroused the Federation of Women's Clubs to demanding the city's streets be made safe for women and children after dark. The appropriation for modernizing street lighting was immediately increased two-and-a-half times and serious consideration is being given to a $10,000,000 relighting plan.

This is the Kelly-Creswell Model that will SOLVE your Municipal Zone-Marking Problems.



Uniform Cross-Distribution
Clean-Cut, Attractive Lines
Pressure Cleaning Equipment
Air-Actuated Traction.

More Highway Zone-Marking Material is applied thru K-C Equipment than thru any other make. **There must be a reason.**

KELLY-CRESWELL CO., Xenia, Ohio

Parking Responsibility

by BURTON W. MARSH, *Member, ITE*

WHERE should responsibilities be placed for providing parking facilities in a community parking program?

Discussions on this question frequently become confusing as they progress. Often the debate is one of whether the municipality or private enterprise should do the job — or whether or not there should be municipal financing or subsidy.

One main trouble arises from trying to present *one common answer* for *all* questions of responsibility which are involved. Much more satisfactory progress will be made if at least four component parts are considered separately, for they may warrant different answers!

These four parts or phases of a community parking program are:

1. *Planning* — Involving surveys, analysis and preparation of recommended specific plan and program.
2. *Site Acquisition*
3. *Construction*
4. *Operation of Parking Facilities*

In considering each of these aspects separately, it should be borne in mind that there are three main beneficiaries of parking facilities: (1) the parker, (2) affected property owners and businesses, and (3) the municipal corporation. Most persons will agree on the soundness of the principle that beneficiaries should share in paying for improvements in accordance with their proportionate benefits and their ability to pay.

If, then, responsibility for parking facilities is analyzed on the basis of: (a) the four phases, (b) three main beneficiaries, and (c) the paying-as-benefitted principle, considerable clarification results. Here are some illustrative points:

1. *Planning.* As to placing main responsibility for planning, there seems little basis for disagreement. Generally, it does not seem reasonable to assert that private enterprise should be the group to make the comprehensive studies needed impartially to analyze and appraise the many involved questions, and to produce the desired *community* parking plan and program. It's for just such overall jobs, affecting the whole municipality, that we have trained public servants in local government. Here, then, is one aspect on which the appropriate municipal agency (such as a Parking Authority or Agency) can and should make the major contribution—with, of course, close and active participation of specially interested business, professional and civic groups.

2. *Site Acquisition.* There may be difference of opinion as to responsibilities for this phase. There will, nonetheless, be general agreement that considering it separately from the other phase helps to clarify thinking.

Often numerous properties under differing ownership must be assembled and acquired—and the total property cost must be kept reasonable. Municipal powers of eminent domain and condemnation procedures must often be used.

In some effective manner, such basic matter as the following must be assured: (1) community parking facilities must be permanent (not "sold out" when an attractive bid for the property comes along); (2) design must be suited to surrounding street and traffic conditions (for example, exits must be so designed and located that out-garage peak

traffic will not clog traffic on important streets and "surge tank" reservoir capacity must be provided off-street so that peak in-garage flows will not blockade streets); (3) fee schedules should be required to be such as will attract the intended type of parker and discourage others (for example, by offering low rates for the first two hours followed by substantial hourly rates, encourage the short-time parker or shopper and discourage the long-time or all-day-storage parker); (4) proper standards of service, protection and cleanliness are highly important.

If sites are acquired by the municipality, such assurance can be provided. For even if the municipality does not construct and operate the facilities, contracts for lease or (where legal) for sale to a private operator can include SUITABLE CONTROLS.

These are some factors which deserve consideration as to where responsibility should be placed for site acquisition.

Of course, even if the municipality assumes responsibility for site acquisition, there is nothing to prevent providing that property owners shall share in financing, as through a benefit assessment plan.

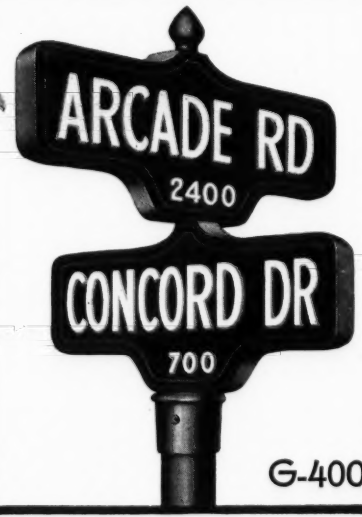
3. *Construction.* In considering this phase, it is desirable to decide who is going to operate the parking facility; for, responsibility for construction and operation generally involve the same group. However, this is by no means always true. Thus in one city extensive parking is planned as a part of a municipal market center. The municipality might, in a civic center or elsewhere, want to control design for aesthetic or other reasons. Or the municipality or its parking agency might want to assure functional design to meet certain standards or conditions which it could not be sure private enterprise would meet.

However, legislation bearing on the right of the municipality to construct parking facilities should be carefully considered. There may be a prohibition against use of public funds, even in small part only (as for a corner store in a parking garage building) for non-public purposes. If such a prohibition exists, it may be desirable to seek corrective enabling legislation. Use of certain ground floor frontage for business other than parking may produce considerably more revenue and thus may make possible a considerably more attractive schedule of parking rates in the remainder of the building.

4. *Operation.* Strong differences of opinion will frequently exist as to whether the municipality (or an agency thereof such as a Parking Authority) or private enterprise should operate parking facilities. According to American tradition, say many, private enterprise should operate them, as it does most businesses. Those who hold this concept believe that parking is a business, basically like other businesses. They believe that government should stay out of business, though many or most of them will agree that government should *regulate* business operations which have such strong impacts on the public weal. They believe that generally private operation is more efficient and less likely to become a political football. Many of them will admit that private enterprise has its faults—sometimes serious faults—but even so, they point out that our country, built on private enterprise, has produced the highest standards of living in the world and that our citizenry generally enjoy greater liberty, more freedom, and a stronger individual "dynamic drive" than do the citizens of most other countries, which do not have the private enterprise system.

Finally, they claim that if private enterprise is given a proper oppor-

THAT'S THE STREET SIGN FOR US MR. SUPERINTENDENT IT'S BEAUTIFUL BUT VERY PRACTICAL TOO !



- 45 years of successful manufacturing of signs have made GROTE products nationally accepted for all traffic control problems.

- SIGNS
- SIGNALS
- STREET NAME PLATES
- FIREBALL REFLECTOR BUTTONS
- GROTELITE REFLECTOR LENSES
- RAILROAD SIGNALS

Write, wire or call for your Catalogs today

FREE Pocket guide for successful safety campaigns

Prompt Deliveries

- DURABLE
- GRACEFUL
- DIGNIFIED
- PRACTICAL

The Grote Mfg. Co. Inc.

SIGNS · SIGNALS · STREET NAME PLATES

BELLEVUE, KY. • • OPPOSITE CINCINNATI, OHIO

GROTE

tunity, is not left in uncertainty as to stability of municipal parking policies, is not forced to compete with public subsidized parking facilities, thwarted by unreasonable restrictions or strangled by inequitable taxation, it can and will do a good job in providing warranted parking facilities, at rates which eventually competition keep at fair levels.

On the other hand, there are those who regard parking "terminals" as logical "extensions" of roads and streets. Hence, they assert that parking facilities should be owned and operated by government, just as highways are. Others arrive at the same conclusion as to ownership and operation on the basis that parking is essentially or virtually a public utility which can best be managed by government. They assert that the welfare of a very large proportion of the general public is involved and that government will do a better job *in the interest of all the people* than competitive, profit-seeking private enterprise will. They may agree with the desirability of maintaining our private enterprise system, but believe that parking, like handling the mail or supplying water, should be treated as one of the areas in which an exception is warranted. They are likely to state that to date, private enterprise has not provided the *community* parking program and facilities which we need. They are likely to point to various governmental services which they assert *are* efficiently handled. In essence, they hold that parking is one type of service for which we have created our organized governments.

Thus, wide differences in underlying philosophy and concept will often be found to exist on this matter. Each community must resolve this issue for itself.

Municipal operation means municipal planning, site selection, and construction. In contrast, it may be decided as a matter of policy that the municipality (or its Parking Agency or Parking Authority) should be responsible for one or more of those other three aspects, but that operation should be by private enterprise.

If it be decided that local government should be responsible for various or all of these four aspects, a careful legal study should be made to ascertain whether or not the municipality now possesses adequate authority to do what is proposed. It may very well be that new authority should be obtained through state enabling legislation. The Highway Research Board has published valuable reference material on this matter. The AAA Parking Manual also contains material which will be helpful to those analyzing parking problems and seeking to evolve sound policies for their community's parking program.

TULANE CONFERENCE

Tulane University, cooperating with the Northwestern University Traffic Institute and the American Bar Association, will conduct a conference for traffic court judges and prosecutors April 26 to May 1 on its campus in New Orleans.

Speakers and discussion leaders will include representatives of the American Bar Association, the Traffic Institute, the University's College of Law, the Automotive Safety Foundation, municipal and other courts and police departments.

Information covering conference registration may be obtained from the Traffic Institute, 1704 Judson Avenue, Evanston, Ill., or the American Bar Association, Traffic Court Committees, Room 600, 105 W. Monroe Street, Chicago 3.

FRASER NEW HEAD OF SAFETY FOUNDATION

Paul G. Hoffman, President of the Studebaker Corporation, has resigned as chairman and treasurer of the Automotive Safety Foundation.

He will be succeeded in the chairmanship by Alexander Fraser, President of Shell Union Oil Corporation, who was elected March 6, 1948, by the Foundation's trustees, all top executives in the automobile, tire, petroleum and allied industries.

The Foundation, which was created in 1937, makes grants of funds and of technical staff assistance to a wide list of national organizations and governmental agencies for work in traffic safety, highway development and related transportation fields.

Mr. Hoffman played a major role in its establishment, and served as Foundation president from 1937 to 1942, when he became chairman and treasurer. Pyke Johnson succeeded him as president.

Accepting the chairmanship, Mr. Fraser paid high tribute to his predecessor, who "over a long period of years has given generously of his time and his great abilities to a worthy humanitarian cause.

"Mr. Hoffman will remain on the Operating Committee, which directs the affairs of the Foundation. That is the best reassurance that I have of being successful in this new undertaking."

NATIONAL CONSERVATION BUREAU CHANGES NAME

The name of the National Conservation Bureau, nationally known safety organization, has been changed and in the future will be known as the Accident Prevention Department of the Association of Casualty and Surety Companies, J. Dewey Dorsett, Association general manager, has announced. The change in name, authorized in a meeting of the Executive Committee, was made to clear up certain misunderstandings as to the purpose of the department in justice to the millions of insurance buyers who make its public services possible, he said.

Julien H. Harvey, manager of the Accident Prevention Department, pointed out that as early as 1910, it was recognized that an important part of this public service could be more effectively administered if the companies were to associate themselves with each other for that purpose. Accordingly, twenty of the companies organized a service organization to deal with matters pertaining to workmen's compensation. This original group worked in the State of New York and gradually expanded the service to cover the entire nation and embrace accident prevention activities in industry, traffic, home, schools and the public scene at large.

"The change in name from the National Conservation Bureau to the Accident Prevention Department is nothing more than a new title," Mr. Harvey said. "The program and policies of the department aimed toward the goal of conserving life and property, will remain the same. The administration of the Accident Prevention Department of the Association will remain the same as that of the Conservation Bureau in every respect. The promotion of its broad and basic activities in the form of industrial safety, administered by the Industrial Division and the pursuit of traffic accident prevention, through traffic engineering, high school driver education, improvement in driver licensing by state government, the adoption of periodic motor vehicle inspection programs by state government and all of the many activities that go to formulate a well rounded accident prevention program will be continued with ever increasing vigor."

NORTHWESTERN ANNOUNCES FELLOWSHIPS

The Northwestern University Traffic Institute has announced that sixteen $650 fellowships and sixteen $250 tuition scholarships will be available to police officers selected to attend its 1948 fall course in traffic police administration.

The Kemper Foundation for Traffic Safety, Chicago, provides the fellowships and scholarships to municipal police officers, and the Automotive Safety Foundation, Washington, D. C., offers the awards to state and county police officers.

The course is designed for commanding officers, police training directors and for those who may be expected to attain positions of command. Its purposes are to:

1. Provide a broad understanding of all phases of modern traffic control.
2. Develop ability to plan and execute an effective police traffic control program.
3. Develop ability to conduct traffic police training courses.
4. Encourage professional awareness and an interest in traffic policing as a career.

Lectures, demonstrations, conferences, field work and a one-week field study trip constitute the plan of instruction. The 1948 fall course, which runs from September 2, 1948 to January 22, 1949, will include more than 600 hours of instruction.

Applications for the 1948 fall course must be submitted to the Traffic Institute, 1704 Judson Avenue, Evanston, Ill., by June 15, 1948. Requests for application forms should be addressed to the director of training.

U. S. C. OF C. ENDORSES HIGHWAY SAFETY CAMPAIGN

Full endorsement of the 1948 National Highway Safety Campaign by the Chamber of Commerce of the United States was announced this week in a bulletin sent out to all of the 2,500 local Chambers. A similar bulletin, announcing this newest addition to nation-wide support of the newspaper accident prevention program, was sent to all managers of state press and publisher groups by the Association of Casualty and Surety Companies, author and coordinator of the campaign.

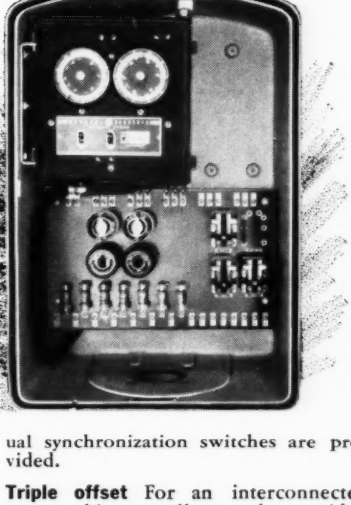
The National Highway Safety Campaign is a repetition of last year's successful campaign in which over 8,000 newspapers took part. The educational editorial and advertising material used in the campaign was formulated by accident prevention experts of the Association of Casualty and Surety Companies. With the assistance of the Western Newspaper Union, the Association is coordinating the distribution of all campaign material and promotion.

YOUNG DRIVERS ARE DANGEROUS

Youngsters are killing more people on the highways than the oldsters, Amos E. Neyhart, head of the Institute of Public Safety at Pennsylvania State College, warned the California Safety Council. Neyhart is also consultant on road training for American Automobile Association.

Records show that per mile, Neyhart explained, 16-year-olds kill nine times as many people on the highways as the safest driver age group of 45 to 50. Considering the 15-19 age group, he said its fatality rate per mile is five times that of the 45-50 age group. This makes the 16-year-old the "dangerous age".

A New Traffic Controller



Two Cycle Lengths The new G-E Type DK controller has two independently driven dials. By having dials rotate at different speeds and by switching control from one dial to the other, cycle length can be changed. Lengths from 20 to 120 seconds can be selected for either dial.

Two Percentage Splits Percentage split for each dial is selected independently—in increments of 1 per cent. Thus main-street green can be lengthened for rush hours—and yellows can remain approximately the same regardless of total cycle length.

Cycle and Split change without a master Selection of cycle length and percentage split can be made without interconnection—either manually, or automatically by use of a time switch.

Progression without interconnection Since both dials revolve at all times, it is perfectly practical to operate a number of these controllers from a common a-c supply, and synchronize both dials so that progression with either is achieved without interconnection. Manual synchronization switches are provided.

Triple offset For an interconnected system, this controller may be provided with automatic reset equipment, thus obtaining single offset with one dial and a choice of two offsets with the other. Thus, the system can provide ideal progression for northbound traffic during one period, for southbound during another, and with the optimum all-round progression during normal traffic periods.

Compact—Sturdy—Simple This DK controller is soundly designed. The improvements recently incorporated in the DH line are provided. All bearings are life-time lubricated. Every part has been designed with close attention to all details—to keep maintenance low, reliability high.

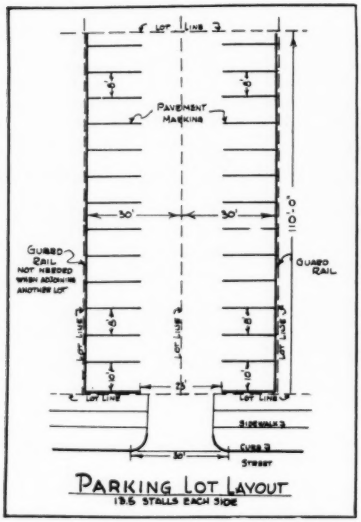
* * *

G-E engineers will be glad to work with you in determining where this new controller will fit into your system. Address our nearest office or *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

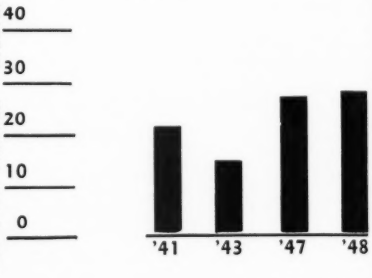
453-39D

REFERENCE NOTES



—AAA Parking Manual

TRAFFIC TRENDS



TRAVEL ON RURAL ROADS FOR FIRST TWO MONTHS OF 1941, 1943, 1947 AND 1948.

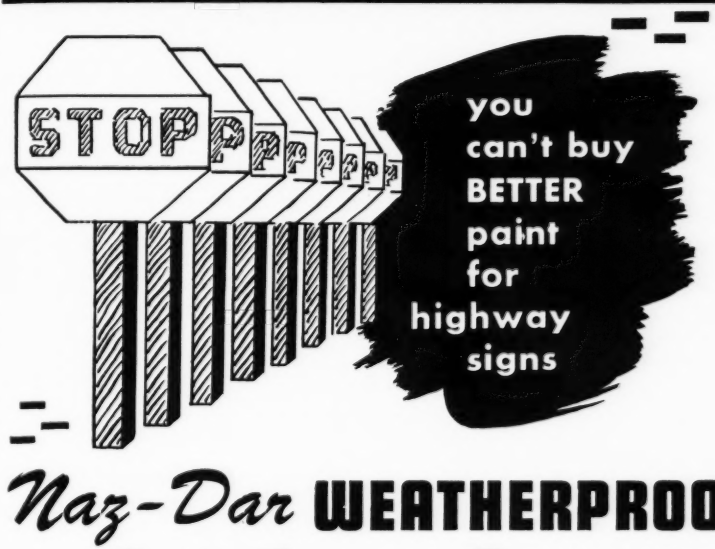
[Based on Public Roads Administration Data]

UNLIGHTED STREETS FATAL

CLEVELAND, OHIO—The Street and Traffic Safety Lighting Bureau reports that 78 per cent of all fatal traffic accidents in 15 states after dark occurred on unlighted streets or highways.

TUTHILL GUARD RAILS
SAFETY
APPEARANCE
VISIBILITY
TUTHILL GUARD, with its convex surface and spring brackets, is safer, for two reasons. It can be seen quicker at longer distances. Its deflective action deflects cars back into highway and absorbs impact. Result—more lives saved—less damage to car and guard rail. Low upkeep cost.
REQUEST DETAILS
Pacific Coast Distributors and Manufacturers
U. S. SPRING & BUMPER CO.
Los Angeles, Calif.
TUTHILL SPRING CO.
764 W. POLK STREET, CHICAGO 7, ILLINOIS

LONG LIFE • HIGH GLOSS



Naz-Dar WEATHERPROOF Silk Screen Enamel

BY ACTUAL TESTS, a number of states have found NAZ-DAR Silk Screen Enamel FAR SUPERIOR to any other, and are using it with great satisfaction.

IT STANDS THE GAFF! Withstands exposure for indefinite periods . . . dries with a hard and tough surface with a fine glossy finish. Comes in paste form . . . 1 gallon will cover from 900 to 1200 sq. ft.

WEATHER PROOF

Write for full information and prices.

TE4-48

THE NAZ-DAR COMPANY · 469-483 MILWAUKEE AVE., CHICAGO 10, ILL.

To

Wilbert F. Watkins

In Recognition and Appreciation

Whereas, your initiative and contribution, beyond ordinary responsibilities to improve your Government is recognized. Therefore the

Louisville
Junior Chamber of Commerce

and

The United States Junior Chamber of Commerce

awards this

Certificate of Recognition

for your courage and outstanding accomplishment in the field of

Good Government

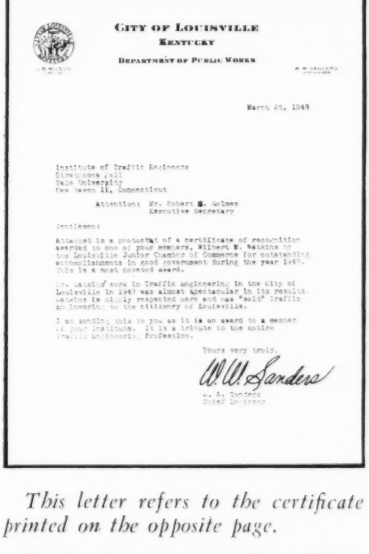
Dated this 4th day of March A.D. 1948

John Ben Shepperd
National President

Lowell A. Collings
Local Secretary

Robert B. Diehl
Local President

Frank G. Foster
Executive Vice President



CITY OF LOUISVILLE
KENTUCKY
DEPARTMENT OF PUBLIC WORKS

March 25, 1948

Institute of Traffic Engineers
Syracuse 1,111
Yale University
New Haven 11, Connecticut

Attention: Mr. Robert S. Wolfe
Executive Secretary

Gentlemen:

Attached is a photostat of a certificate of recognition awarded to one of your members, Wilbert E. Watkins by the Louisville Junior Chamber of Commerce for outstanding accomplishments in good government during the year 1947. This is a most coveted award.

Mr. Watkins' work in Traffic Engineering in the City of Louisville in 1947 was almost spectacular in its results. Louisville is already regarded here and has "built" traffic consciousness in the citizenry of Louisville.

I am sending this to you as it is an award to a member of your Institute. It is a tribute to the entire Traffic Engineering Profession.

Yours very truly,

W. W. Sanders

W. W. Sanders
Chief Engineer

This letter refers to the certificate printed on the opposite page.

Reprint due to error on Page 262, March Issue

1947 ACCIDENT TOLL

Killed — 100,000
Injured — 10,500,000
The Cost — $6,700,000,000

1947 TRAFFIC TOLL

Killed — 32,000

Les and Blanche Williams have again graciously extended an invitation to the New York Section and friends to hold their Third Annual Summer Outing at their place on Pine Island, Rye, New York, Saturday, May 29, 1948. All members and friends of the New York Metropolitan Section and any other ITE members who can attend this outing are cordially invited. Further details will be furnished later.

BOARD OF DIRECTION HOLDS IMPORTANT MEETING

The Board of Direction held one of its quarterly meetings recently on March 1, 1948, at National Headquarters in New Haven, Connecticut. The eight Board members in attendance at the meeting were: Robert A. Mitchell, President, presiding; Harry E. Neal and Wilbur S. Smith, Vice-Presidents; Fred W. Hurd, Secretary-Treasurer; and Nathan Cherniack, D. Grant Mickle, Henry W. Osborne and Thomas J. Seburn, Directors.

The Board convened at 10 o'clock for an all-day session in which many important matters were discussed. Mr. Philip S. Mancini, Chairman, Technical Sessions, Annual Meeting Committee, personally appeared before the Board and presented a report of progress on the program for the 1948 Annual Meeting. Louis E. Bender personally appeared as representative of the Membership Committee to discuss several policy matters relating to processing of applications. Other highlights of the meeting centered on a detailed report of Nathan Cherniack's special Codification Committee relating to a complete re-grouping of ITE committees; changes in the Constitution and By-Laws, to be submitted to the membership prior to the annual meeting; Board action on 49 new member applications and transfers; and a detailed report of ITE activities by the Executive Secretary, covered briefly in the "Secretary's Column", this issue.

The meeting adjourned in time for Board members to attend a regular meeting of the New England Section, ITE.

Plans are underway for a traffic engineering conference at Oregon State College in July.

SECRETARY'S COLUMN

The April issue seems an appropriate spot for a general "mid-year" (Note: ITE fiscal year begins October 1st each year) report to members and our family of subscribers. This month also marks the end of your Executive Secretary's first year in office. Much has happened in the intervening period. Members have already received reports from National Headquarters at the Annual Business Meeting in October, and by newsletters dated early in November and January.

April, 1948, finds the Institute continuing rapid progress under its expanded program of activity. A tentative sale price has been established for the first time with the 1947-48 Yearbook, due to the considerable increase in desirable information contained therein. The new 1947 Proceedings exceeded all expectations and through use of an expanded mailing list it is anticipated that distribution will exceed previous years by a substantial margin. "TRAFFIC ENGINEERING" magazine continues to expand in scope and importance. Circulation is increasing daily and more advertising is noted. New features in this issue include a Professional Services Directory and an Advertiser's Index. Old Traffic Engineering Handbook is out of print and editors of the revised edition are pointing to a summer deadline. Others are being taken and catalogued by National Conservation Bureau for early copies of the revised edition. Technical Bulletins No. 1 and No. 2 are currently being revised by the ITE Committee on Traffic Signals. This same committee is rapidly nearing completion of a new standard for Traffic Actuated Signal Controllers.

The first in a series of training conferences being coordinated by the Institute was held recently at the University of Minnesota. This conference was conducted in a highly successful manner by local ITE members headed by Jim Darrell, with the assistance of your Executive Secretary, and Fred W. Hurd, Secretary-Treasurer, ITE, who was representing the Yale Bureau of Highway Traffic. Details of this and other scheduled conferences were reported in the March issue, "TRAFFIC ENGINEERING" magazine.

The Institute continues to receive favorable publicity through technical publications and local newspapers . . . Plans are shaping up for one of the best Annual Meetings in Institute history next fall. . . . The large number of new members reported elsewhere in this issue is a further indication of the increasing interest of engineers in all parts of the country in becoming affiliated with a progressive and rapidly-growing professional organization. Approximately 100 additional applications are being processed by our Membership Committee and interested applicants. . . . Local Sections are expanding in activity and are beginning to play more important roles in local, regional, and national circles. The Western Section is publishing its own "WesternITE" bulletin. Other Local Sections and Student Chapter activities are reported elsewhere in this issue. . . . Institute Committees are hard at work on new ideas and new developments, headed by the Committees on Transit Operations, Traffic Signals, Research and Annual Meeting. . . . Many attractive traffic engineering positions are becoming available and are being filled by qualified personnel. . . . Traffic engineering consultants are active in all parts of the country. . . . In case there remain any "doubting Thomases", the traffic engineering profession and the Institute are definitely *in business to stay.*

ROBERT S. HOLMES

YEAR BOOK CHANGES

New Members

ONG, JOE R.
Director of Research
Cincinnati St. Railway
824 Dixie Terminal Bldg.
Cincinnati, Ohio

MORRIS, DAVID E.
Traffic Engineer
Wash. State Dept. of Hwys.
Transportation Bldg.
Olympia, Washington

MALLEY, FRANK H.
Director
City Plan Commission
City Hall
Providence 3, R. I.

LOCHNER, HARRY W.
Owner-Manager
H. W. Lochner & Co.
150 N. Wacker Drive
Chicago 6, Illinois

New Associates

McCORMACK, C. F.
Transportation Consultant
Roads & Bridges Committee Room
Legislative Building
Olympia, Wash.

McLENDON, JAY A.
Street Traffic Control Analyst, Los Angeles
SEND MAIL: 2935 Orange
LaCrescenta, California

LEAHY, JOHN F.
Assistant Chief
Bur. of Traffic Engineering
Dept. of Public Safety
785 City Hall
Philadelphia 7, Pa.

JOLESCH, WALTER L.
Traffic Planning Supervisor
Chicago Park District
Administrative Bldg.
425 East 14th Blvd.
Chicago 5, Illinois

GREEN, FOREST H.
Research Engineer
Joint Highway Research Project
Purdue University
Lafayette, Indiana

FRATAR, THOMAS J.
Project Engineer
Knappen Engr. Co.
New York City, New York

CORDER, LEON W.
Senior Maintenance Engr.
State Highway Dept.
Jefferson City, Mo.

VAN RIPER, HAROLD G.
Planning & Traffic Engr.
Department of Highways
SEND MAIL: 132 Conway St., Carlisle, Pa.

PECK, HENRY C.
Traffic Designing Engr.
Chicago Park District
Administrative Bldg.
425 E. 14th Blvd.
Chicago 5, Illinois

MITCHELL, ROBERT G.
Asst. Hwy. Engineer (Planning)
State Highway Dept.
Hartford, Conn.

MICHALSKI, CHARLES S.
Senior Asst. Traffic Engineer
Traffic Engineering Bureau
112 E. Jefferson Street
Detroit 26, Mich.

MYERS, CLYDE
Traffic Engineer
Arizona Highway Dept.
SEND MAIL: 1817 E. Harvard St.
Phoenix, Arizona

FRAENKEL, W. A.
Expert Advisor on Road Traffic & Transp.
SEND MAIL: 70 Hayarkon St.
Tel-Aviv, Palestine

BREEDING, HAROLD A.
Physicist, Illuminating Laboratory
General Electric Co.
1 River Road
Schenectady 5, N. Y.

New Juniors

CAMPBELL, BASEL
Assistant Traffic Engineer
Transport Dept.
Wellington, New Zealand

ZIDES, MURRAY
Design Division
City Engineer's Dept.
108 City Hall
Hamilton, Ontario, Canada

WICHMAN, JAMES R.
Traffic Engineer
Police Department
Kalmazoo, Michigan

SIMM, EUGENE L.
Asst. Director
Traffic Engineering Bureau
Denver 2, Colorado

SCHMIDT, ROBERT E.
District Traffic Engineer
Dept. of Highways
4200 Main Street
Vancouver, Washington

KOERT, ADRIAN H.
Traffic Engineer
1704 Judson Ave.
Evanston, Illinois

HILL, GEORGE A.
Asst. Highway Engr.
c/o Div. of Highways
P. O. Box 3366
Rincon Annex
San Francisco 19, Calif.

FISCH, ARNOLD G.
Asst. Civil Engineer
N. Y. State Dept. of Pub. Wks.
SEND MAIL:
11 West Erie Street
Albany 3, N. Y.

FRAVEL, H. DEAN, JR.
Junior Engineer
U. S. Public Roads Administration
Physical Res. Lab.
Gravelly Pt.
Washington, D. C.

EWART, PHILIPPE
Traffic Engineer
Room 321 New Court House Bldg.
100 E. Notre Dame Street
Montreal, P. Q.

CHANDLER, ROGER T.
Assistant Traffic Engineer
City of Providence
SEND MAIL: 16 Hazard Ave.
Providence, R. I.

BELL, FREDERICK L.
City Traffic Engineer
Burlington, Iowa

PETTERMAN, JACK J.
Assistant Electrical Engineer
Traffic Engineering Bureau
112 E. Jefferson Street
Detroit 26, Michigan

Transfers

ASSOCIATE TO MEMBER

Fred W. Fisch, Daniel A. Branigan, Henry A. Barnes, Warren T. Adams.

TRANSFER—JUNIOR TO MEMBER

Karl A. Bevins.

TRANSFER—JUNIOR TO ASSOCIATE

Martin C. Stark, Edward J. Baumel, Ronald K. McGillivray, Charles S. LeCraw.

REINSTATED—ASSOCIATE

Donald G. Manning.

SECTION NEWS

NEW YORK SECTION

The frequent expression of opinion by writers in current traffic publications that accidents are due largely to the human element rather than road deficiencies was questioned by Mr. R. E. Jorgensen in a talk before the New York Section of the Institute of Traffic Engineers at its January meeting. Mr. Jorgensen, Deputy Highway Commissioner for the State of Connecticut, stated that such generalization as to accident causes could be a reflection of the accident reporting systems rather than true presentation of fact.

Existing methods of collection of accident data at the scene and existing methods of analysis of the information of individual accident reports does not give adequate information about road design to permit overall statements as to basic accident causes, he said. The analysis of individual accidents on the highways is severely handicapped due to procedures in recording the exact location of the accident and the lack of careful measurements of physical conditions at the scene of the accident, he continued.

Mr. Jorgensen expressed the opinion that the individual accident reports were most valuable if the analysis for enforcement, education, and engineering purposes were approached separately but, that no overall comparisons were valid which attempted to appraise all factors at once.

According to Mr. Jorgensen a real value of the present accident records can only be obtained by analyzing the highway accident records for **comparable sections** of road classified according to specific design type. It is then possible to compare the accident experiences of sections with equal traffic characteristics and to accurately calibrate the effect of road design. The effect of the road on accident experience will then become more obvious and it will be possible to qualify the advantages of the different elements of road design such as shoulder design, center island design, width of lane, and right of way. The State of Connecticut is now undertaking an analysis of all its main roads on this sectional basis.

The business section of the meeting consisted primarily of the discussion of the section's position in civic matters such as the improvement of local traffic administration and control.

YALE UNIVERSITY STUDENT CHAPTER

The main order of business for the February meeting of the Yale Chapter, ITE, was the election of officers. Newly elected officers were: G. R. Cysewski, President; W. S. Derrick, Vice-President, and R. M. Williston, Secretary-Treasurer. At a subsequent meeting in March the following committee appointments were made: Luis Gonzolez-Soler, Chairman, Social Committee; W. T. Taylor, Jr., Chairman, Program Committee; F. T. Maloney, Chairman, Liaison Committee; Cooper McEachern, Chairman, Publicity Committee.

Tentative programs for the balance of the year include an address by a prominent Traffic Engineer for the April meeting and a picnic in May to include the faculty, their wives and other guests.

MID-WEST SECTION

On February 26th, the Mid-West Section of the ITE held a meeting. Mr. Walter J. McCarter, General Manager of the Chicago Transit Authority, presented an informal talk on the subject of vehicular traffic and its coordination with mass transportation. The meeting was a very interesting one to all of the members because it not only gave them the opportunity to get a first hand account of some of the operational problems that the transit people are faced with but also an opportunity to meet the new General Manager of the CTA.

The following attended:

William R. McConochie	G. E. Williams
James Stannard Baker	Richard G. Fencl
Harry Harrison	Victor G. Hofer
Russell Newell	Otto K. Jelinek
Harry Porter	W. R. Abbott
Ralph Michel	William Marston
Mathew Krag	Laurence A. Kane
Matthew Sielski	

A total of 25 attended the dinner and meeting. Ten of these were guests.

MICHIGAN SECTION

Thirty-seven members and guests were present at the meeting of November 20, 1947.

Members	Guests
Sidney Anger	Oliver Bell
Henry Barnes	Oliver Carrier
Barney Cyberski	Don Crosier
John Dobelek	Al Cuthbert
Frank Eisenach	Maurice German
Arthur Gibson	Chester Glasgow
Oscar Gunderson	Albert Hanson
Maxwell Halsey	Edward Kamowski
Ross Harger	Samuel Levine
Russell Harrison	Charles Michalski
Glen Heggie	Burton Miller
Holden LeRoy	Herb O'Brien
Carl McMonagle	Jack Petterman
William Potts	Walter Pletcher
Paul Robinette	Steve Sawicki
Frank Ronan	Eugene Simm
Edward Shulman	Dan Suedaker
Walter Steinfatt	
Joseph Wehmeyer	
Light Yost	

President Ross Harger called the group to order at 7:00 P.M. He thanked co-chairmen J. Dobelek and M. German and their committee for the swell job on arrangements.

The resolution from ITE headquarters, lauding the work of the Michigan Section for putting on the "Memorable annual event of the Institute in Detroit," was read by President Harger. A financial report was submitted by our secretary-treasurer. The possibility of annexing the State of Ohio to our Section was discussed. Upon motion by Wehmeyer, seconded by Ronan, the secretary was instructed to request approval of ITE headquarters for such action.

Henry Barnes made a speech about mountains, streams, fishing, and the deplorable traffic conditions in Denver.

Three experts on parking meters were lined up against the wall; namely, Paul Robinette of Toledo, Sid Anger of Lansing, and Henry Barnes of Flint. A barrage of questions were fired at the three who had little difficulty throwing back the right answers.

Joe Wehmeyer urged those present to attend the Michigan State Highway Conference this year.

Max Halsey asked the traffic engineers to pick their chairmen for the forthcoming Michian State Safety Conference. McMonagle and Eisenach proposed Wehmeyer, and he was elected.

President Harger adjourned the business session at 8:45 P.M.

NEW ENGLAND SECTION MEETS IN NEW HAVEN

The New England Section held a regular meeting on Monday, March 1, 1948, at the Faculty Club in New Haven, Conn. Members of the Board of Direction of the Institute were present, as well as the Yale Student Chapter, ITE, members of a class of Army students studying at the Bureau of Highway Traffic, Section Members and their guests.

The following members of the Board of Direction of the Institute attended:

Robert A. Mitchell, President
Harry E. Neal, Vice-President
Wilbur S. Smith, Vice-President
Fred W. Hurd, Secretary-Treasurer
Nathan Cherniack, Director
D. Grant Mickle, Director
Henry W. Osborne, Director
Thomas J. Seburn, Director

A letter was read from Bill Billings, offering his resignation from the position of Section Vice-President. Billings is now located in Cleveland. It was decided to postpone the election of a new Vice-President until the annual meeting of the section, which takes place in the late Spring.

The Section was notified of its election to the Connecticut Technical Council, an organization representing at least 14 national and local professional societies. The following delegates to the Council were appointed to represent the section:

Senior Delegate, Ted Matson.
Junior Delegate, Earle Osterhoudt.
Alternates, Paul Green and Charles LeCraw.

Plans were discussed for a point meeting on April 15 in New York with the New York Metropolitan Section, in conjunction with the Greater New York Safety Conference. About 25 members and guests from the New England Section plan to attend.

Robert A. Mitchell, President of the Institute, was introduced as the guest speaker of the evening. His remarks on the practical problems confronted in the operation of a city traffic engineering bureau were highly entertaining as well as extremely interesting. Following Mr. Mitchell's remarks, several other Board members were called on for remarks, and this phase of the program also brought out many interesting observations.

A very pleasant part of the evening's activities was provided by Morton Raff, a student at the Bureau of Highway Traffic, who played several piano selections following dinner.

The following members and guests attended the meeting:

William H. Armstrong	Lt. Col. W. W. Morris
Benedict G. Barkan	Capt. T. J. Morrison
John Barker	Capt. I. R. Meyers
Louis Bender	Earle W. Osterhoudt
Lt. Col. J. H. Cunningham	Capt. J. W. Patterson
Lt. C. A. Costello	Morton Raff
Gerald R. Cysewski	Martin Reiner
William S. Derrick	Mel Reynolds
Elroy L. Ericksen	Charles H. Rex
Earl Flynn	Edmund R. Ricker
Albert L. Forde	Capt. C. S. Sajac
W. R. B. Froehlich	L. T. Scott-Smith
Frank J. Gurny	W. H. Sharp
John T. Hanna	Edward C. Sosman
Robert S. Holmes	Gordon S. Spencer
Jack A. Hutter	William T. Taylor, Jr.
Charles S. LeCraw	Francis E. Twiss
Capt. R. J. Lombard	Major G. F. Tyrrell
Francis T. Maloney	Charles M. Upham, Jr.
Theodore M. Matson	Capt. P. F. Vuchetich
Cooper McEachern	Robert M. Williston

FLORIDA SECTION

The Florida Section launched its program of activities on March 4, 1948 at a joint meeting with the Miami Section of the American Society of Civil Engineers. At least thirty-five members of the two organizations and guests attended the meeting held at the Coral Gables Country Club.

Following the dinner and the business meeting of the ASCE the program was devoted to a panel discussion of Metropolitan Miami's traffic problems. The members of the panel were: Robert J. Findley, General Manager of the South Florida Motor Club; Capt. John L. Hoover, Director of Traffic of Miami Beach and a member of ITE; T. M. Vanderstempel, Traffic Engineer of the Miami Transit Company and a member of both organizations, and Earl Reeder, a member of both organizations, as moderator.

In the discussion major attention was given to the special traffic problems of this area, particularly the great variation in the amount of traffic during the year. Mr. Findley pointed out that about 70% of his club's requests for information and service are made during the winter season. Mr. Vanderstempel reported a very substantial increase in bus riders during the "season". Capt. Hoover said that traffic is much larger in Miami Beach during the winter. Earl Reeder quoted the results of a traffic check by his department on February 16 showing about 40% more cars on the streets than in May or August.

Tied in with this unusual pattern was a discussion of the part that mass transportation can play in handling this condition of unbalance, the great need for much more off-street parking, and some related matters.

Following the panel discussion there were several questions from the audience and a great deal of informal discussion after the meeting adjourned.

UNIVERSITY OF ILLINOIS STUDENT CHAPTER

March 3, 1948

Dear Mr. Holmes:

This being my first letter to you, I wish to take this opportunity to bring you up to date on the activities of this chapter. The meeting which Robert Allen referred to in his last letter (March issue), was preceeded by a dinner for our guest speaker, Matthew C. Sielski, Director, Saftey and Traffic Engineering Dept., Chicago Motor Club. This dinner was attended by Professors W. C. Huntington and C. C. Wiley, members of the Civil Engineering faculty, and ten members of the student chapter. Mr. Sielski conducted a very interesting discussion of Traffic Engineering in general at the meeting which followed the dinner.

Our first meeting of the current semester was held Wednesday, February 25. At this meeting we discussed projects and activities for this semester. A committee was appointed to study the various projects proposed and determine the ones which we can and should undertake. Two other committees were appointed; Publicity and South-east Champaign Business District; the latter to study a volume count taken last semester.

Eight prospective new members attended our first meeting and indicated that they would like to join the chapter. Some of the members raised the question of having a student pin. I bring this to your attention now with the hope that this could be arranged

for, if not now, then in the future. I am sure that most, if not all, of the members would like such a pin if it could be furnished at a reasonable cost.

As a majority of the present members are graduating this summer, June 20 to be exact, they are now interested in finding work. A number have expressed a definite interest to me in obtaining a position in the field of traffic engineering. If you would furnish me with information on job opportunities and openings which are available now or become available before June 20, I will pass this on to the interested members.

ROBERT A. KROENING,
Secretary-Treasurer.

I T E PERSONALS

The appointment of **ROBERT J. ALLEN**, traffic engineer, to the staff of the National Conservation Bureau, accident prevention division of the Association of Casualty and Surety Companies, has been announced by J. Dewey Dorsett, general manager of the Association. Mr. Allen will serve in the traffic engineering services of the Bureau, assisting in the wide-spread research and advisory activities designed to ease traffic ills and to curtail accidents in American cities. A native of Berwyn, Ill., Mr. Allen received a Master of Science degree earlier this month at the University of Illinois, where he majored in traffic engineering. He received a Bachelor of Science degree in civil engineering last spring. While obtaining his Masters, he was employed by the Illinois State Water Survey Division and also helped conduct traffic surveys in Urbana, Ill., as a member of the student chapter of the Institute of Traffic Engineers. Mr. Allen holds a reserve officer's commission in the Corps of Engineers. He served in both the European and Pacific theaters during the last war. Besides his membership in the Institute of Traffic Engineers, Mr. Allen is a member of the National Safety Council, American Society of Civil Engineers and the Society of American Military Engineers. He is an associate of the Highway Research Board and an associate member of the Illinois chapter of the Society of Sigma Xi.

LIGHT B. YOST has been named director of the field operations section of the distribution staff of General Motors Corporation. He succeeds Frederick C. Horner, who has retired after twenty-five years with the company.

HENRY W. OSBORNE is a registered engineer in New York State—License No. 22007—the first engineer in New York to be given a license on the basis of 15 years experience in Traffic Engineering.

DONALD MACDONALD is a vice-consul of the United States Foreign Service in Korea.

$5,000 FOR LAMP REPAIRS

FLINT, MICH.—The city's 2500 street lamps, are replaced three times a year on the average, making the bill chargeable to vandalism $5,000 annually. A city official points out that this destruction "not only costs money but the temporary loss of light makes driving more hazardous and crime more tempting."

MORE YEARBOOK CHANGES

George T. Papageorge, 460 Claire Drive, N.E. Atlanta, Georgia.
William E. Billings, Director, Transportation & Safety, The Cleveland Automobile Club, 2605 Euclid Avenue, Cleveland 15, Ohio.
Gerald E. Shuttleworth, Traffic Sign Superintendent, The Hunt Company, 3700 W. Six Mile Road, Detroit, Michigan.
R. H. Sprungman, 209 B City Hall, Minneapolis 15, Minnesota.
Bernard C. Hartung, Personnel Mgr. & Safety Engr., Vaughan-Millwork Company, P. O. Box 679, Reno, Nevada.
Mr. Edward Kidwell, 709 Quitman Street, Houston 6, Texas.

Northwestern University Traffic Institute Announces 1948 Traffic Police and Traffic Court Training Programs

Northwestern University Traffic Institute is again offering three-week Traffic Police Training Courses for the year 1948, with a spring and fall session. These courses will provide traffic police with the basic knowledge required for developing an effective and coordinated program for prevention of traffic accidents. The Spring course is scheduled for April 5-24, 1948, and the Fall course, October 25-November 12, 1948.

In cooperation with the American Bar Association the Traffic Institute is continuing with its program of conducting regional five-day Traffic Court Conferences for Judges and Prosecutors. These conferences are designed to afford judges and prosecutors an opportunity to become more familiar with the proper handling of traffic cases and to develop policies and procedures which will assure effective treatment of traffic violators through improved court administration. The western region conference, sponsored by the University of California at Berkeley was successfully completed on February 14, 1948. Similar regional conferences are scheduled at Tulane University, New Orelans, April 26-30; at New York University June 21-25; and at Northwestern University, October 11-15, 1948.

REFLECTOR BUTTONS AND SIGNS

that give lasting brilliance

EVEN IN THE RAIN!

- DANGER SIGNALS
- GALVANIZED SIGN POSTS
- HIGHWAY SIGNS AND MARKERS
- STREET NAME SIGNS
- RAILROAD CROSSING SIGNS
- REFLECTOR BUTTONS

CATAPHOTE

CORPORATION,

TOLEDO, OHIO

Personalities . . . .

Pyke Johnson (Affil. Member) has been an apostle of good roads for over three decades. Every phase of his career, following his early newspaper days in his native state of Colorado, has been closely interwoven with highways and highway transportation. Reviewing the numerous activities related to road improvement in which he has participated through the years is therefore very much like counting the milestones in the progress of modern American highway transportation. Indeed this abiding interest has often carried him beyond the domestic scene to international road problems.

Educated at the University of Denver, Mr. Johnson entered the newspaper field and for several years was sports editor of the "Rocky Mountain News".

In 1916 ill health forced Mr. Johnson to give up newspaper work for a less strenuous type of journalism. He became editor of a publication issued by the Colorado State Highway Department. His new duties took him all over the state, studying road conditions and needs at first hand, and developing the relationship between highway transportation and the state's economic and social future.

With America's entry into World War I, he was called to work with the

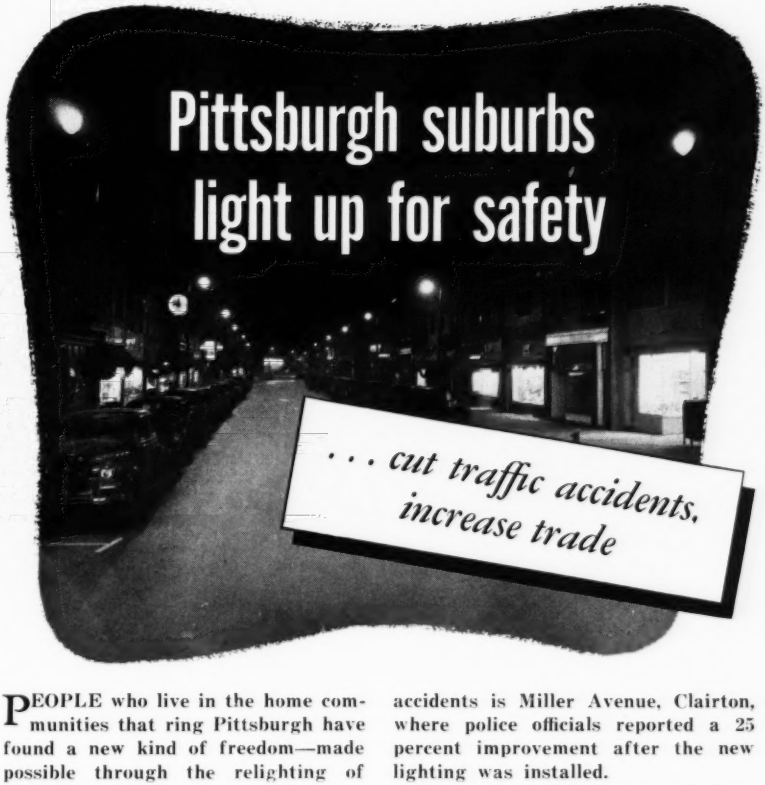
(See JOHNSON *on page 348)*

From early experience as a horseman and cow hand to one of the nation's transportation leaders are the extremes of Roger Morrison's career.

A familiar figure among highway engineers, Professor Morrison was educated at the University of Illinois and Columbia University. Unlike many of his colleagues, he began his professional career, upon graduation from college, as an instructor in civil engineering at the University of Tennessee. His varied experience before going to the University of Michigan nearly 25 years ago included superintendent of road construction for the Illinois State Highway Department, a short experience in sales engineering, and then five years as professor of highway engineering at Texas A. and M. For two years he was engineer in charge of testing for the Pittsburgh Testing Laboratories, and for three years was secretary-treasurer and general manager of the Concrete Products Company of Birmingham, Alabama.

Long a believer in high caliber research and training for young highway engineers, Professor Morrison returned to college work in 1924. His long and outstanding career as professor of highway engineering and highway transport at the University of Michigan needs no detailed description among his fellow Institute members.

(See MORRISON *on page 350)*



PEOPLE who live in the home communities that ring Pittsburgh have found a new kind of freedom—made possible through the relighting of their city streets.

In Clairton, Aliquippa, Wilmerding, Avalon and other nearby towns traffic accidents have been reduced, night window shopping has picked up, and everywhere residents are commenting on how much more secure they feel after dark.

Typical of the quality of this new lighting is Franklin Avenue, Aliquippa, shown above. On this 42-foot wide street, classified by I.E.S. standards as a heavy traffic artery, 6000-lumen lights have been replaced with 10,000-lumens, mounting heights increased from 15 to 25 feet.

Typical of the reduction in traffic accidents is Miller Avenue, Clairton, where police officials reported a 25 percent improvement after the new lighting was installed.

Duquesne Light Company, the far-sighted utility whose cooperation with municipal officials has made these improvements possible, is actively engaged in extending the benefits of good street lighting to additional areas—hopes soon to help make the entire Pittsburgh area a model of after dark safety.

THE WHOLE STORY

If you would like additional details, before and after photos, and ideas you can use to promote better street lighting in your community, write for your copy of "Improved Street Lighting Around Pittsburgh."

The Street and Traffic Safety Lighting Bureau, NEMA, 155 East 44th St., New York 17, N. Y.

(JOHNSON, *Con't from page 346)*
Highway Transport Committee set up by the Council of National Defense to expedite over-the-road haulage of war materials and supplies and relieve the overburdened railroads. The Committee was headed by the late Roy D. Chapin, president of the Hudson Motor Car Company and for many years the automotive industry's spark plug in the Good Roads Movement.

The tremendous wartime task accomplished by motorized transport, under the direction of this Committee, definitely established the motor vehicle as a primary agency of transportation in the United States. Highway transportation lines set up in various parts of the country served as a vast laboratory for experiments in road operations. Pioneer studies were conducted, including such areas as operating costs, regulation of vehicles on the roadway and related subjects, and the findings helped to lay down the broad outlines of many of the nation's future highway policies. The lessons learned from extensive truck convoy operations moulded public sentiment for a Federal system of highways, which resulted in subsequent Federal Aid enactments.

After the war the National Automobile Chamber of Commerce, later renamed the Automobile Manufacturers Association, invited Mr. Johnson to become its Washington representative and secretary of its Highways Committee. Working in this dual capacity, he became associated with many of the leaders prominent in the development of the Federal Aid Highway Program. For a time he served as consultant to the Townsend Committee on Post Roads, on appointment by its chairman, the late Senator Charles E. Townsend of Michigan.

This work also brought him into close cooperation with other national organizations, road user and farm groups active in the cause of road improvement—relationships which he has cherished and strengthened through the years. Incidentally, Mr. Johnson has not only been a long-time advocate of better farm-to-market roads but he is a Past Master of Potomac Grange, oldest Grange in the United States.

As motor vehicle use expanded phenomenonally in the Twenties, a twofold need became increasingly apparent: to step up technical education in the highway field and to educate the public at large on the importance of adequate road facilities to keep pace with the transport revolution in progress. This led to the creation of the Highway Education Board, of which Mr. Johnson was made executive secretary.

The primary task of the board was to get more institutions of higher learning interested in various phases of highway education, especially the training of engineers. New impetus was given to research in road construction and maintenance. Universities and colleges initiated courses in such hitherto unexplored fields as highway transport and highway economics.

Educators also began to see the need for secondary school courses on the social, economic and cultural implications of this new form of transportation. For the first time, highway safety studies were introduced in the public schools a program that has made such impressive strides in recent years.

American progress in highway transportation began to command the attention of foreign countries. Government officials in Latin America and abroad, seeking to reorganize traditional methods of highway building and maintenance, sought the counsel and assistance of authorities in this country. This led to a series of international conferences, in which Mr. Johnson played a significant part.

In 1923 he represented the automobile industry at the first International Road Congress at Seville, Spain. He was an official U. S. delegate to the sessions of this international body at Milan, Italy, in 1926 and at Washington, D. C. in 1930. He was made a member of the Permanent International Road Commission, and in recognition of his efforts in the development of this organization was decorated with the Legion of Honor by the French Government in 1933.

Similarly active in spreading the gospel of good roads among the nations of the Western Hemisphere, Mr. Johnson helped to arrange an inspection tour of United States roads for Central and South American highway officials in 1924, and then became executive secretary of the first and second Pan-American Highway Congresses, held respectively at Buenos Aires in 1925 and Rio de Janeiro in 1929. He also held the post of executive director of the Pan-American Confederation on Highway Education.

Mr. Johnson became executive vice-president of the Automobile Manufacturers Association in 1939. He terminated almost a quarter century of service with this organization in 1942 to accept the presidency of the Automotive Safety Foundation, which in that year expanded its program to include not only highway safety but highway development, parking and other problems.

In the Spring of 1946 Mr. Johnson made his most recent tour in Latin America as con-

How much is a LIFE worth?

That's what you can SAVE by installing

CROUSE-HINDS NEON Pedestrian Signals

At long last . . . . a signal that really curbs the **reckless pedestrian!**

He is one of the major causes of death and injury . . . . the reckless pedestrian who ignores the conventional traffic signal which he considers for vehicles only. His attention is arrested by the distinctive shape and brilliant lettering in Crouse-Hinds NEON Pedestrian Signals, the signals that deliver their message directly to HIM. He just naturally obeys their positive command.

Needed at all extra-busy corners, these signals are invaluable at complicated intersections, especially where it is hazardous for pedestrian and vehicular traffic to move at the same time in the same direction. Install them in the direct line of pedestrian vision at one of your "problem" intersections and note the outstanding improvement in pedestrian control.

These NEON signals are ideal for use as vehicle information signs, such as ROUTE 20⟶ , ONE WAY⟶ and NO LEFT TURN. Their striking appearance catches the eye of the motorist in locations where ordinary signs would be "lost" in distracting surroundings.

The weatherproof Crouse-Hinds NEON Pedestrian Signals and Traffic Signs are cast aluminum, built to withstand heavy duty. The letters are all red or a red and green combination, 4-1-2" high. Available in one-line and two-line types, these signals can be mounted like a conventional traffic signal, on top of a post, on bracket arms, on a span wire, or on a mast arm.

Write for full details. Ask for descriptive circular, Type TNO. It contains catalog listings of the 14 variations that are regularly furnished.

A Nationwide Distribution Through Electrical Wholesalers

Crouse-Hinds Catalog 226 lists a complete line of traffic signals, beacons, flashers, and a series of controllers designed to help you solve your traffic control problems . . . from simple installations up to the most complex heavy traffic problem. Send for your copy.

CROUSE-HINDS COMPANY
Syracuse 1, N. Y.

Offices: Birmingham – Boston – Buffalo – Chicago – Cincinnati – Cleveland – Dallas – Denver – Detroit Houston – Indianapolis – Kansas City – Los Angeles – Milwaukee – Minneapolis – New York Philadelphia – Pittsburgh – Portland, Ore. – San Francisco – Seattle – St. Louis – Washington. *Resident Representatives:* Albany – Atlanta – Charlotte – New Orleans – Richmond, Va. CROUSE-HINDS COMPANY OF CANADA, LTD., *Main Office and Plant:* TORONTO, ONT.

CONDULETS
FLOODLIGHTS
TRAFFIC SIGNALS
AIRPORT LIGHTING

sultant to a Congressional sub-committee making an investigation and study of the Pan-American Highway in the Central American Republics.

Mr. Johnson is a past president of the American Trade Association Executives and has also been chairman of its Advisory Committee. He is on the Board of Governors of the District of Columbia Division, American Automobile Association, and is a member of the Coordinating Committee of the President's Highway Safety Conference.

As to what might be called his extra-curricular affiliations, they include the Sigma Alpha Epsilon and Sigma Delta Chi fraternities; the National Press Club, Metropolitan Club and Burning Tree Club in Washington, D. C.; the Columbia Country Club in Chevy Cahse, Md.; and the Detroit Athletic Club.

One of his favorite hobbies is tramping in the hills. An inveterate golfer, he claims he plays his best game when the weather is so bad that nobody else will venture out on the links. He is a strong hand at poker and is an even tougher opponent at gin rummy.

He makes his home in the Spring Valley District of suburban Washington.

TRAFFIC ACCIDENT COSTS IN DETROIT

Traffic accidents in Detroit are costing the persons involved nearly 10 million dollars a year in direct costs, according to a study made by the Accident Prevention Department of the Association of Casualty and Surety Companies.

The study was conducted by J. A. Carrothers, acting director of traffic engineering services of the Department, and was based on "unit costs" of traffic accidents found in previous studies of other cities. The direct cost to Detroiters involved in accidents during 1947 was found to total $9,460,000.

Pointing out the soaring costs of automobile repairs and increased doctor and hospital fees during the past year may throw the actual expense out of line with the unit costs set a few years ago, Mr. Carrothers said a further study will be made of the Detroit accident situation to determine a more accurate figure. The new study, to be conducted within the next few months, will include a personal canvass of persons involved in traffic accidents and direct interviews to determine what the accidents cost them.

(MORRISON, *Con't from page 346*)

One of Professor Morrison's most familiar roles since the war has been as chairman of the Highway Research Board, where he has been a leader long before he became the Board's Chairman in 1946.

Professor Morrison was a Captain in the U. S. Army Engineer Reserve during World War I, has been a member of the Ann Arbor, Michigan, city council and since 1946 has been a member of the Michigan State Highway Department Advisory Committee.

His professional society activities, in addition to ITE, include the American Society of Civil Engineers, Association of Asphalt Paving Technologists (a past president), member of the board of consultants of Eno Foundation. Professor Morrison was president of the Institute in 1937-39. His written contributions in the field of highway engineering are many, perhaps the best known being his book (with A. H. Blanchard) "Elements of Highway Engineering" published in 1928.

Professor Morrison doesn't admit having many hobbies. He does tell about a 1400 mile jaunt on horseback and a trial at cow-punching some years ago. His horseback riding ability "if any", he says, was passed on to his daughter who taught horsemanship at girls' camps during summer vacation. His golf game was, he uses the past tense, of the Civil War variety "out in 61, back in 65", and he claims the undisputed distinction of being Ann Arbor's worst bridge player. His pennyante poker falls in the same class as his bridge, he says. Among Professor Morrison's many virtues, we suspect modesty.

The first Missouri traffic engineering conference is scheduled for June 29-July 1, 1948 at Columbus, Mo.

Professional Services Directory

PALMER AND BAKER, INC.
CONSULTING ENGINEERS
For Problems of Transportation
Subaqueous Vehicular Tunnels · Rock Tunnels · Utility Tunnels
Bridges · Grade Separations · Highways · Airports
Traffic Studies · Parking Problems
Waterfront and Harbor Structures
MOBILE, ALABAMA

TRAFFIC ASSOCIATES
JOSEPH J. FEUCHTER, PRESIDENT
ENGINEERING, TRAFFIC AND TRANSPORTATION CONSULTANTS
818 OLIVE STREET **ST. LOUIS 1, MISSOURI**
Municipal and Commercial Traffic Studies, Surveys and Reports
Designs, Plans and Specifications for Traffic-Signals, Roadways, Etc.
Registered Professional Engineers

ASSOCIATED CONSULTANTS
Consulting in Street Traffic and Transportation
GEORGE W. BARTON
Engineering Director
1704 Judson Ave., Evanston, Ill.

CONSOER, TOWNSEND & ASSOCIATES
Water Supply — Sewerage
Flood Control and Drainage
Bridges — Express Highways — Paving
Power Plants, Appraisals
Reports — Traffic Studies — Airports
351 East Ohio Street
Chicago 11, Illinois

SIMPSON and CURTIN
Transportation Engineers
1405 Locust Street, Philadelphia 2, Pa.
Hawley S. Simpson · John F. Curtin

INDEX TO ADVERTISERS

The revenue derived from the sale of advertising space enables the *Institute* to publish TRAFFIC ENGINEERING on a regular monthly basis. Listed below are the names of the Companies and Individuals whose advertisements appear in this issue.

	Page
Associated Consultants	351
Cataphote Corporation	345
Consoer, Townsend & Associates	351
Crouse-Hinds Company	349
General Electric Company	335
Grote Manufacturing Co.	331
Hunt Company	323
Kelly-Creswell Co.	328
Marbelite Co.	352
Minnesota Mining & Mfg. Co.	324-325
Miro-Flex Co.	319
National Electrical Mfrs. Assn.	347
Naz-Dar Co.	337
Palmer & Baker, Inc.	351
Prismo Safety Corp.	317
Simpson & Curtin	351
Streeter-Amet Co.	327
Traffic Associates	351
Traffic Safety Supply Co.	Inside Back Cover
Tuthill Spring Co.	336

MARBELITE TRAFFIC CONTROLLER

Here is design servicemen will appreciate. Complete access to all operating parts. Quick, simple means to change a signal interval, a timing cycle, or replace a contact. A jack plug for fast disconnection of the timer. Hinged mounting for easy removal.

No special tools required. Thumb pressure releases the timer latch, and out swings the timer. Off with the cover. Now, see the complete mechanism in operation . . . the precise meshing of gears revolving the timing dial . . . dial keys tripping the micro switches . . . powerful solenoid action . . . and the making and breaking of cams and contacts. No delicate parts or complicated wiring. Should anything go amiss, you can spot and correct it immediately.

Examine the features described. Then decide if there is any other controller that can compare in ease of inspection and service.

Write today for the new Bulletin M-10 which fully describes this new controller.

No Obligation. So Write Today!

THE MARBELITE CO., INC.

27 WARREN ST. NEW YORK 7, N.Y.

keys
enoid
cams
cated
spot

ecide
npare

XU